

TOWN OF MARION



P. O. BOX 1005
138 WEST MAIN STREET
MARION, VA 24354

Phone: 276-783-4113

Fax: 276-783-8413

www.marionva.org

COUNCIL:

| | |
|------------------------|-------------|
| David P. Helms, Mayor | Bill Weaver |
| Jane Hale | Mel Leaman |
| Suzanne Jennings | Mark Warren |
| James L. Gates, D.D.S. | |
| Ken Heath | |

Received

JAN 05 2011

December 23, 2010

To Whom It May Concern:

DEQ-SWRO

The Town of Marion Wastewater Treatment Plant would like to request the following changes be made in our upcoming permit application. We ask for a reduction in frequency of testing for CBOD5 and TSS. We currently run tests on both of these parameters three days per week, and request that the frequency of testing be reduced to one day per week. We make this request, asking that you review the DMR's over the past five years. You will see that our results are well under limits, with results for CBOD5 normally running BQL.

Thanks for your consideration in this matter
Douglas L. Teaster
Chief Operator
Town of Marion WWTP

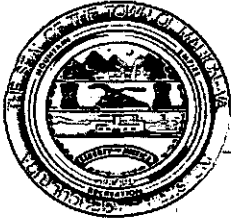


John E. B. Clark, Jr., Town Manager
Donnie Coley, Dir. Of Water & Sewer
Mindy Dyer, Senior Citizens Director
Mark Fenyk, Counsel
Billy Hamm, Purchasing Agent

Cecil Hicks, Asst. Town Manager/Town Engineer
Michael D. Roberts, Chief of Police
Jack Perry, Director of Public Works
Dixie O. Sheets, Dir. Of Finance/Town Clerk
Samuel C. Wagner, Recreation Director



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JAN 05 2011

DEQ-SWRO

To Whom It May Concern:

This letter is to request a waiver for the non permitted parameters listed on page 9 of the NPDES form 2A. These parameters are Total Kjeldahl Nitrogen, Nitrate Plus Nitrite Nitrogen, Oil & Grease, and Total Phosphorus.

These parameters are not present in our effluent in any quantity to pose a danger to our receiving stream, the Middle Fork of the Holston River.

Douglas L. Teaster
Chief Operator
Town of Marion WWTP
276-782-8495
dteaster@marionva.org



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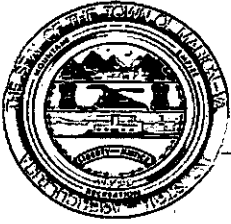
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JAN 05 2011

To Whom It May Concern:

DEQ-SWRO

This letter is to address section B 5 on NPDES form 2A. The Town of Marion WWTP is currently involved in replacing our influent pumps, and in the beginning of 2011 we will be in the preliminary stages of replacing our U.V. system and perform other repair work to the facility. Exact dates of construction beginning and ending are not available at this time. This work will not increase the plants capacity or treatment efficiency in any way; therefore I do not believe it needs to be addressed in the NPDES application.

Douglas L. Teaster
Chief Operator
Town of Marion WWTP
276-782-8495
dteaster@marionva.org



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Michael D. Roberts, *Chief of Police*
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Samuel C. Wagner, *Recreation Director*



FACILITY NAME AND PERMIT NUMBER:

Town of Marion VA 0086304

Received
OMB Number 2040-0086

FORM
2A
NPDES

NPDES FORM 2A APPLICATION OVERVIEW

JAN 05 2011

DEQ-SWRO

APPLICATION OVERVIEW

Form 2A has been developed in a modular format and consists of a "Basic Application Information" packet and a "Supplemental Application Information" packet. The Basic Application Information packet is divided into two parts. All applicants must complete Parts A and C. Applicants with a design flow greater than or equal to 0.1 mgd must also complete Part B. Some applicants must also complete the Supplemental Application Information packet. The following items explain which parts of Form 2A you must complete.

BASIC APPLICATION INFORMATION:

- A. **Basic Application Information for all Applicants.** All applicants must complete questions A.1 through A.8. A treatment works that discharges effluent to surface waters of the United States must also answer questions A.9 through A.12.
- B. **Additional Application Information for Applicants with a Design Flow ≥ 0.1 mgd.** All treatment works that have design flows greater than or equal to 0.1 million gallons per day must complete questions B.1 through B.6.
- C. **Certification.** All applicants must complete Part C (Certification).

SUPPLEMENTAL APPLICATION INFORMATION:

- D. **Expanded Effluent Testing Data.** A treatment works that discharges effluent to surface waters of the United States and meets one or more of the following criteria must complete Part D (Expanded Effluent Testing Data):
 - 1. Has a design flow rate greater than or equal to 1mgd,
 - 2. Is required to have a pretreatment program (or has one in place), or
 - 3. Is otherwise required by the permitting authority to provide the information.
- E. **Toxicity Testing Data.** A treatment works that meets one or more of the following criteria must complete Part E (Toxicity Testing Data):
 - 1. Has a design flow rate greater than or equal to 1 mgd,
 - 2. Is required to have a pretreatment program (or has one in place), or
 - 3. Is otherwise required by the permitting authority to submit results of toxicity testing.
- F. **Industrial User Discharges and RCRA/CERCLA Wastes.** A treatment works that accepts process wastewater from any significant industrial users (SIUs) or receives RCRA or CERCLA wastes must complete Part F (Industrial User Discharges and RCRA/CERCLA Wastes). SIUs are defined as:
 - 1. All industrial users subject to Categorical Pretreatment Standards under 40 Code of Federal Regulations (CFR) 403.6 and 40 CFR Chapter I, Subchapter N (see instructions); and
 - 2. Any other industrial user that:
 - a. Discharges an average of 25,000 gallons per day or more of process wastewater to the treatment works (with certain exclusions); or
 - b. Contributes a process wastestream that makes up 5 percent or more of the average dry weather hydraulic or organic capacity of the treatment plant; or
 - c. Is designated as an SIU by the control authority.
- G. **Combined Sewer Systems.** A treatment works that has a combined sewer system must complete Part G (Combined Sewer Systems).

ALL APPLICANTS MUST COMPLETE PART C (CERTIFICATION)

FACILITY NAME AND PERMIT NUMBER:

Town of Marion VA 0086304

Form Approved 1/14/99
OMB Number 2040-0086

BASIC APPLICATION INFORMATION

PART A. BASIC APPLICATION INFORMATION FOR ALL APPLICANTS:

All treatment works must complete questions A.1 through A.8 of this Basic Application Information Packet.

A.1. Facility Information.

Facility Name Town of Marion Wastewater Treatment Plant

Mailing Address P.O. Box 1005
Marion Va. 24354

Contact Person Mr. John E.B. Clark, JR

Title Town Manager

Telephone Number (276) 783-4113

Facility Address 1580 Daisy Lane
(not P.O. Box) Marion Va. 24354

A.2. Applicant Information. If the applicant is different from the above, provide the following:

Applicant Name _____

Mailing Address _____

Contact Person _____

Title _____

Telephone Number () _____

Is the applicant the owner or operator (or both) of the treatment works?

☒ owner ☒ operator

Indicate whether correspondence regarding this permit should be directed to the facility or the applicant.

☐ facility ☒ applicant

A.3. Existing Environmental Permits. Provide the permit number of any existing environmental permits that have been issued to the treatment works (include state-issued permits).

NPDES VA 0086304

PSD _____

UIC _____

Other _____

RCRA _____

Other _____

A.4. Collection System Information. Provide information on municipalities and areas served by the facility. Provide the name and population of each entity and, if known, provide information on the type of collection system (combined vs. separate) and its ownership (municipal, private, etc.).

| Name | Population Served | Type of Collection System | Ownership |
|-------------------------------------|-------------------|---------------------------|------------------|
| <u>Town of Marion</u> | <u>6349</u> | <u>Sanitary</u> | <u>Municipal</u> |
| <u>Smyth County</u> | <u>1670</u> | <u>Sanitary</u> | <u>Municipal</u> |
| _____ | _____ | _____ | _____ |
| Total population served <u>8019</u> | | | |

FACILITY NAME AND PERMIT NUMBER:

Town of Marion VA 0086304

Form Approved 1/14/99
OMB Number 2040-0086**A.5. Indian Country.**

- a. Is the treatment works located in Indian Country?

☐ Yes ☒ No

- b. Does the treatment works discharge to a receiving water that is either in Indian Country or that is upstream from (and eventually flows through) Indian Country?

☐ Yes ☒ No**A.6. Flow.** Indicate the design flow rate of the treatment plant (i.e., the wastewater flow rate that the plant was built to handle). Also provide the average daily flow rate and maximum daily flow rate for each of the last three years. Each year's data must be based on a 12-month time period with the 12th month of "this year" occurring no more than three months prior to this application submittal.

- a. Design flow rate
- 3.4
- mgd

| | <u>Two Years Ago</u> | <u>Last Year</u> | <u>This Year</u> |
|-----------------------------------|----------------------|------------------|------------------|
| b. Annual average daily flow rate | <u>1.496</u> | <u>1.78</u> | <u>1.5</u> |
| c. Maximum daily flow rate | <u>2.43</u> | <u>3.85</u> | <u>2.61</u> |

A.7. Collection System. Indicate the type(s) of collection system(s) used by the treatment plant. Check all that apply. Also estimate the percent contribution (by miles) of each.

- ☒ Separate sanitary sewer 100 %
- ☐ Combined storm and sanitary sewer _____ %

A.8. Discharges and Other Disposal Methods.

- a. Does the treatment works discharge effluent to waters of the U.S.?
- ☒
- Yes
- ☐
- No

If yes, list how many of each of the following types of discharge points the treatment works uses:

- i. Discharges of treated effluent 1
- ii. Discharges of untreated or partially treated effluent 0
- iii. Combined sewer overflow points 0
- iv. Constructed emergency overflows (prior to the headworks) 1
- v. Other _____

- b. Does the treatment works discharge effluent to basins, ponds, or other surface impoundments that do not have outlets for discharge to waters of the U.S.?
- ☐
- Yes
- ☒
- No

If yes, provide the following for each surface impoundment:

Location: _____

Annual average daily volume discharge to surface impoundment(s) _____ mgd

Is discharge ☐ continuous or ☐ intermittent?

- c. Does the treatment works land-apply treated wastewater?
- ☐
- Yes
- ☒
- No

If yes, provide the following for each land application site:

Location: _____

Number of acres: _____

Annual average daily volume applied to site: _____ mgd

Is land application ☐ continuous or ☐ intermittent?

- d. Does the treatment works discharge or transport treated or untreated wastewater to another treatment works?
- ☐
- Yes
- ☒
- No

FACILITY NAME AND PERMIT NUMBER:

Town of Marion VA 0086304

Form Approved 1/14/99
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If yes, describe the mean(s) by which the wastewater from the treatment works is discharged or transported to the other treatment works (e.g., tank truck, pipe).

If transport is by a party other than the applicant, provide:

Transporter Name _____

Mailing Address _____

Contact Person _____

Title _____

Telephone Number () _____

For each treatment works that receives this discharge, provide the following:

Name _____

Mailing Address _____

Contact Person _____

Title _____

Telephone Number () _____

If known, provide the NPDES permit number of the treatment works that receives this discharge _____

Provide the average daily flow rate from the treatment works into the receiving facility. _____ mgd

- e. Does the treatment works discharge or dispose of its wastewater in a manner not included in A.8. through A.8.d above (e.g., underground percolation, well injection): ☐ Yes ☒ No

If yes, provide the following for each disposal method:

Description of method (including location and size of site(s) if applicable):

Annual daily volume disposed by this method: _____

Is disposal through this method ☐ continuous or ☐ intermittent?

FACILITY NAME AND PERMIT NUMBER:

Town of Marion VA 0086304

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OMB Number 2040-0086

WASTEWATER DISCHARGES:

If you answered "yes" to question A.8.a, complete questions A.9 through A.12 once for each outfall (including bypass points) through which effluent is discharged. Do not include information on combined sewer overflows in this section. If you answered "no" to question A.8.a, go to Part B, "Additional Application Information for Applicants with a Design Flow Greater than or Equal to 0.1 mgd."

A.9. Description of Outfall.

- a. Outfall number 001
- b. Location Marion 24354
(City or town, if applicable) (Zip Code)
Smyth Va
(County) (State)
36 D 49 M 21S 81 D 33 M 08S
(Latitude) (Longitude)
- c. Distance from shore (if applicable) 22.4 ft.
- d. Depth below surface (if applicable) .5 ft.
- e. Average daily flow rate 1.5 mgd
- f. Does this outfall have either an intermittent or a periodic discharge? ☐ Yes ☒ No (go to A.9.g.)
If yes, provide the following information:
Number of times per year discharge occurs: _____
Average duration of each discharge: _____
Average flow per discharge: _____ mgd
Months in which discharge occurs: _____
- g. Is outfall equipped with a diffuser? ☒ Yes ☐ No

A.10. Description of Receiving Waters.

- a. Name of receiving water Middle Fork Holston River
- b. Name of watershed (if known) Holston River
United States Soil Conservation Service 14-digit watershed code (if known): _____
- c. Name of State Management/River Basin (if known): Tennessee Big-Sandy River
United States Geological Survey 8-digit hydrologic cataloging unit code (if known): _____
- d. Critical low flow of receiving stream (if applicable)
acute _____ cfs chronic _____ cfs
- e. Total hardness of receiving stream at critical low flow (if applicable): _____ mg/l of CaCO₃

FACILITY NAME AND PERMIT NUMBER:

Town of Marion VA 0086304

Form Approved 1/14/99
OMB Number 2040-0086**A.11. Description of Treatment**

a. What levels of treatment are provided? Check all that apply.

☒ Primary☒ Secondary☐ Advanced☐ Other. Describe: _____

b. Indicate the following removal rates (as applicable):

Design BOD5 removal or Design CBOD5 removal 90 %Design SS removal 90 %Design P removal 0 %Design N removal 85 %

Other _____ %

c. What type of disinfection is used for the effluent from this outfall? If disinfection varies by season, please describe:

Ultra Violet Radiation

If disinfection is by chlorination is dechlorination used for this outfall?

☐ Yes☐ No

d. Does the treatment plant have post aeration?

☒ Yes☐ No

A.12 Effluent Testing Information. All Applicants that discharge to waters of the US must provide effluent testing data for the following parameters. Provide the indicated effluent testing required by the permitting authority for each outfall through which effluent is discharged. Do not include information on combined sewer overflows in this section. All information reported must be based on data collected through analysis conducted using 40 CFR Part 136 methods. In addition, this data must comply with QA/QC requirements of 40 CFR Part 136 and other appropriate QA/QC requirements for standard methods for analytes not addressed by 40 CFR Part 136. At a minimum, effluent testing data must be based on at least three samples and must be no more than four and one-half years apart.

Outfall number: 001

| PARAMETER | MAXIMUM DAILY VALUE | | AVERAGE DAILY VALUE | | |
|----------------------|---------------------|-------|---------------------|-------|-------------------|
| | Value | Units | Value | Units | Number of Samples |
| pH (Minimum) | 6.3 | S.U. | | | |
| pH (Maximum) | 7.1 | S.U. | | | |
| Flow Rate | 3.9869 | mgd | 1.5 | mgd | 1 / Day |
| Temperature (Winter) | 14 | C | 11 | C | 1 / Day |
| Temperature (Summer) | 22 | C | 20 | C | 1 / Day |

* For pH please report a minimum and a maximum daily value

| POLLUTANT | MAXIMUM DAILY DISCHARGE | | AVERAGE DAILY DISCHARGE | | | ANALYTICAL METHOD | ML/MDL |
|-----------|-------------------------|-------|-------------------------|-------|-------------------|-------------------|--------|
| | Conc. | Units | Conc. | Units | Number of Samples | | |

CONVENTIONAL AND NON CONVENTIONAL COMPOUNDS

| | | | | | | | |
|--|-------|--------|-------|-------|-------|-------|----------------------------------|
| BIOCHEMICAL OXYGEN DEMAND (Report one) | BOD5 | | | | | | |
| | CBOD5 | 19.9 | mg/l | .62 | mg/l | 3 / W | SM5210B 2 mg/l |
| FECAL COLIFORM E-COLI | | 2419.6 | N/Cml | 122.9 | N/Cml | 3 / W | 19 th SM92238 1 / cml |
| TOTAL SUSPENDED SOLIDS (TSS) | | 18.8 | mg/l | 4.0 | mg/l | 3 / W | SM2540D 5 mg/l |

END OF PART A.
REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM
2A YOU MUST COMPLETE

FACILITY NAME AND PERMIT NUMBER:

Town of Marion VA 0086304

Form Approved 1/14/99
OMB Number 2040-0086

BASIC APPLICATION INFORMATION

PART B. ADDITIONAL APPLICATION INFORMATION FOR APPLICANTS WITH A DESIGN FLOW GREATER THAN OR EQUAL TO 0.1 MGD (100,000 gallons per day).

All applicants with a design flow rate ≥ 0.1 mgd must answer questions B.1 through B.6. All others go to Part C (Certification).

B.1. Inflow and Infiltration. Estimate the average number of gallons per day that flow into the treatment works from inflow and/or infiltration.

50,000 gpd

Briefly explain any steps underway or planned to minimize inflow and infiltration.

We still have no plans other than typical line maintenance to minimise I&I. Estimate flow to be less than 5% of total flow.

B.2. Topographic Map. Attach to this application a topographic map of the area extending at least one mile beyond facility property boundaries. This map must show the outline of the facility and the following information. (You may submit more than one map if one map does not show the entire area.)

- The area surrounding the treatment plant, including all unit processes.
- The major pipes or other structures through which wastewater enters the treatment works and the pipes or other structures through which treated wastewater is discharged from the treatment plant. Include outfalls from bypass piping, if applicable.
- Each well where wastewater from the treatment plant is injected underground.
- Wells, springs, other surface water bodies, and drinking water wells that are: 1) within $\frac{1}{4}$ mile of the property boundaries of the treatment works, and 2) listed in public record or otherwise known to the applicant.
- Any areas where the sewage sludge produced by the treatment works is stored, treated, or disposed.
- If the treatment works receives waste that is classified as hazardous under the Resource Conservation and Recovery Act (RCRA) by truck, rail, or special pipe, show on the map where the hazardous waste enters the treatment works and where it is treated, stored, and/or disposed.

B.3. Process Flow Diagram or Schematic. Provide a diagram showing the processes of the treatment plant, including all bypass piping and all backup power sources or redundancy in the system. Also provide a water balance showing all treatment units, including disinfection (e.g., chlorination and dechlorination). The water balance must show daily average flow rates at influent and discharge points and approximate daily flow rates between treatment units. Include a brief narrative description of the diagram.

B.4. Operation/Maintenance Performed by Contractor(s).

Are any operational or maintenance aspects (related to wastewater treatment and effluent quality) of the treatment works the responsibility of a contractor? ☒ Yes ☐ No

If yes, list the name, address, telephone number, and status of each contractor and describe the contractor's responsibilities (attach additional pages if necessary).

Name: EMS, INC

Mailing Address: P.O. Box 784
Wythville Va. 24382

Telephone Number: (276) 228-6464

Responsibilities of Contractor: Effluent Monitoring

B.5. Scheduled improvements and Schedules of Implementation. Provide information on any uncompleted implementation schedule or uncompleted plans for improvements that will affect the wastewater treatment, effluent quality, or design capacity of the treatment works. If the treatment works has several different implementation schedules or is planning several improvements, submit separate responses to question B.5 for each. (If none, go to question B.6.)

- List the outfall number (assigned in question A.9) for each outfall that is covered by this implementation schedule.

- Indicate whether the planned improvements or implementation schedule are required by local, State, or Federal agencies.

☐ Yes

☐ No

FACILITY NAME AND PERMIT NUMBER:

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c. If the answer to B.5.b is "Yes," briefly describe, including new maximum daily inflow rate (if applicable).

d. Provide dates imposed by any compliance schedule or any actual dates of completion for the implementation steps listed below, as applicable. For improvements planned independently of local, State, or Federal agencies, indicate planned or actual completion dates, as applicable. Indicate dates as accurately as possible.

| Implementation Stage | Schedule MM/DD/YYYY | Actual Completion MM/DD/YYYY |
|----------------------------|-----------------------------|---------------------------------|
| - Begin Construction | <u> / / </u> | <u> / / </u> |
| - End Construction | <u> / / </u> | <u> / / </u> |
| - Begin Discharge | <u> / / </u> | <u> / / </u> |
| - Attain Operational Level | <u> / / </u> | <u> / / </u> |

e. Have appropriate permits/clearances concerning other Federal/State requirements been obtained? ☐ Yes ☐ No

Describe briefly: _____

B.6. EFFLUENT TESTING DATA (GREATER THAN 0.1 MGD ONLY).

Applicants that discharge to waters of the US must provide effluent testing data for the following parameters. Provide effluent testing for the following listed parameters and those required by the permitting authority for each outfall through which effluent is discharged. Do not include information on combined sewer overflows in this section. All information reported must be based on data collected through analysis conducted using 40 CFR Part 136 methods. In addition, this data must comply with QA/QC requirements of 40 CFR Part 136 and other appropriate QA/QC requirements for standard methods for analytes not addressed by 40 CFR Part 136. At a minimum effluent testing data must be based on at least three pollutant scans, preferably represent several seasons, and must be no more than four and on-half years old.

Outfall Number: 001

| POLLUTANT | MAXIMUM DAILY DISCHARGE | | AVERAGE DAILY DISCHARGE | | | ANALYTICAL METHOD | ML/MDL |
|---|-------------------------|-------|-------------------------|-------|-------------------|-------------------|--------|
| | Conc. | Units | Conc. | Units | Number of Samples | | |
| CONVENTIONAL AND NON CONVENTIONAL COMPOUNDS | | | | | | | |
| AMMONIA (as N) | 4.4 | mg/l | .47 | mg/l | 46 | 4500nH3C | .20 |
| CHLORINE (TOTAL RESIDUAL, TRC) | NA | NA | NA | NA | NA | NA | NA |
| DISSOLVED OXYGEN | 10.9 | mg/l | 8.09 | mg/l | 455 | 4500-O-G | .01 |
| TOTAL KJELDAHL NITROGEN (TKN) | NA | NA | NA | NA | NA | NA | NA |
| NITRATE PLUS NITRITE NITROGEN | NA | NA | NA | NA | NA | NA | NA |
| OIL and GREASE | NA | NA | NA | NA | NA | NA | NA |
| PHOSPHORUS (Total) | NA | NA | NA | NA | NA | NA | NA |
| TOTAL DISSOLVED SOLIDS (TDS) | 18.8 | mg/l | 4.0 | mg/l | 130 | 2540 D | .1 |
| OTHER CBOD 5 | 19.9 | mg/l | .62 | mg/l | 130 | 5210 B | 2.0 |

END OF PART B.

REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM 2A YOU MUST COMPLETE

FACILITY NAME AND PERMIT NUMBER:

Town of Marion VA 0086304

Form Approved 1/14/99
OMB Number 2040-0086

BASIC APPLICATION INFORMATION

PART C. CERTIFICATION

All applicants must complete the Certification Section. Refer to instructions to determine who is an officer for the purposes of this certification. All applicants must complete all applicable sections of Form 2A, as explained in the Application Overview. Indicate below which parts of Form 2A you have completed and are submitting. By signing this certification statement, applicants confirm that they have reviewed Form 2A and have completed all sections that apply to the facility for which this application is submitted.

Indicate which parts of Form 2A you have completed and are submitting:

☐ Basic Application Information packet

Supplemental Application Information packet:

☒ Part D (Expanded Effluent Testing Data)

☒ Part E (Toxicity Testing: Biomonitoring Data)

☒ Part F (Industrial User Discharges and RCRA/CERCLA Wastes)

☐ Part G (Combined Sewer Systems)

ALL APPLICANTS MUST COMPLETE THE FOLLOWING CERTIFICATION.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name and official title John E.B. Clark, JR

Signature John E.B. Clark, JR.

Telephone number (276) 783-4113

Date signed January 3, 2010

Upon request of the permitting authority, you must submit any other information necessary to assure wastewater treatment practices at the treatment works or identify appropriate permitting requirements.

SEND COMPLETED FORMS TO:

FACILITY NAME AND PERMIT NUMBER:

Town of Marion VA 0086304

Form Approved 1/14/99
OMB Number 2040-0086

SUPPLEMENTAL APPLICATION INFORMATION

PART D. EXPANDED EFFLUENT TESTING DATA

Refer to the directions on the cover page to determine whether this section applies to the treatment works.

Effluent Testing: 1.0 mgd and Pretreatment Works. If the treatment works has a design flow greater than or equal to 1.0 mgd or it has (or is required to have) a pretreatment program, or is otherwise required by the permitting authority to provide the data, then provide effluent testing data for the following pollutants. Provide the indicated effluent testing information and any other information required by the permitting authority for each outfall through which effluent is discharged. Do not include information on combined sewer overflows in this section. All information reported must be based on data collected through analyses conducted using 40 CFR Part 136 methods. In addition, these data must comply with QA/QC requirements of 40 CFR Part 136 and other appropriate QA/QC requirements for standard methods for analytes not addressed by 40 CFR Part 136. Indicate in the blank rows provided below any data you may have on pollutants not specifically listed in this form. At a minimum, effluent testing data must be based on at least three pollutant scans and must be no more than four and one-half years old.

Outfall number: 001 See Attached (Complete once for each outfall discharging effluent to waters of the United States.)

| POLLUTANT | MAXIMUM DAILY DISCHARGE | | | | AVERAGE DAILY DISCHARGE | | | | | ANALYTICAL METHOD | ML/MDL |
|--|-------------------------|-------|------|-------|-------------------------|-------|------|-------|-------------------|-------------------|--------|
| | Conc. | Units | Mass | Units | Conc. | Units | Mass | Units | Number of Samples | | |
| METALS (TOTAL RECOVERABLE), CYANIDE, PHENOLS, AND HARDNESS. | | | | | | | | | | | |
| ANTIMONY | | | | | | | | | | | |
| ARSENIC | | | | | | | | | | | |
| BERYLLIUM | | | | | | | | | | | |
| CADMIUM | | | | | | | | | | | |
| CHROMIUM | | | | | | | | | | | |
| COPPER | | | | | | | | | | | |
| LEAD | | | | | | | | | | | |
| MERCURY | | | | | | | | | | | |
| NICKEL | | | | | | | | | | | |
| SELENIUM | | | | | | | | | | | |
| SILVER | | | | | | | | | | | |
| THALLIUM | | | | | | | | | | | |
| ZINC | | | | | | | | | | | |
| CYANIDE | | | | | | | | | | | |
| TOTAL PHENOLIC COMPOUNDS | | | | | | | | | | | |
| HARDNESS (AS CaCO3) | | | | | | | | | | | |
| Use this space (or a separate sheet) to provide information on other metals requested by the permit writer | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |

FACILITY NAME AND PERMIT NUMBER:

Town of Marion VA 0086304

Form Approved 1/14/99
OMB Number 2040-0086

Outfall number: 001 (Complete once for each outfall discharging effluent to waters of the United States.)

| POLLUTANT | MAXIMUM DAILY DISCHARGE | | | | AVERAGE DAILY DISCHARGE | | | | | ANALYTICAL METHOD | ML/MDL |
|-----------------------------|-------------------------|-------|------|-------|-------------------------|-------|------|-------|-------------------|-------------------|--------|
| | Conc. | Units | Mass | Units | Conc. | Units | Mass | Units | Number of Samples | | |
| VOLATILE ORGANIC COMPOUNDS | | | | | | | | | | | |
| ACROLEIN | | | | | | | | | | | |
| ACRYLONITRILE | | | | | | | | | | | |
| BENZENE | | | | | | | | | | | |
| BROMOFORM | | | | | | | | | | | |
| CARBON TETRACHLORIDE | | | | | | | | | | | |
| COLORBENZENE | | | | | | | | | | | |
| CHLOROBIDBROMO-METHANE | | | | | | | | | | | |
| CHLOROETHANE | | | | | | | | | | | |
| 2-CHLORO-ETHYLVINYL ETHER | | | | | | | | | | | |
| CHOLOROFORM | | | | | | | | | | | |
| DICHLOROBROMO-METHANE | | | | | | | | | | | |
| 1,1-DICHLOROETHANE | | | | | | | | | | | |
| TRANS-1,2-DICHLORO-ETHYLENE | | | | | | | | | | | |
| 1,1-DICHLOROPROPANE | | | | | | | | | | | |
| ETHYLBENZENE | | | | | | | | | | | |
| METHYL BROMIDE | | | | | | | | | | | |
| METHYL CHLORIDE | | | | | | | | | | | |
| METHYLENE CHLORIDE | | | | | | | | | | | |
| 1,1,2,2-TETRACHLORO-ETHANE | | | | | | | | | | | |
| TETRACHLORO-ETHYLENE | | | | | | | | | | | |
| TOLUENE | | | | | | | | | | | |

FACILITY NAME AND PERMIT NUMBER:

Town of Marion VA 0086304

Form Approved 1/14/99
OMB Number 2040-0086

Outfall number: 001

(Complete once for each outfall discharging effluent to waters of the United States.)

| POLLUTANT | MAXIMUM DAILY DISCHARGE | | | | AVERAGE DAILY DISCHARGE | | | | | ANALYTICAL METHOD | ML/MDL |
|--|-------------------------|-------|------|-------|-------------------------|-------|------|-------|-------------------|-------------------|--------|
| | Conc. | Units | Mass | Units | Conc. | Units | Mass | Units | Number of Samples | | |
| 1,1,1-TRICHLOROETHANE | | | | | | | | | | | |
| 1,1,2-TRICHLOROETHANE | | | | | | | | | | | |
| TRICHLOROETHYLENE | | | | | | | | | | | |
| VINYL CHLORIDE | | | | | | | | | | | |
| Use this space (or a separate sheet) to provide information on other metals requested by the permit writer | | | | | | | | | | | |
| | | | | | | | | | | | |
| ACID-EXTRACTABLE COMPOUNDS | | | | | | | | | | | |
| P-CHLORO-M-CRESOL | | | | | | | | | | | |
| 2-CHLOROPHENOL | | | | | | | | | | | |
| 2,4-DIMETHYLPHENOL | | | | | | | | | | | |
| 4,6-DINITRO-O-CRESOL | | | | | | | | | | | |
| 2,4-DINITROPHENOL | | | | | | | | | | | |
| 2-NITROPHENOL | | | | | | | | | | | |
| 4-NITROPHENOL | | | | | | | | | | | |
| PENTA CHLOROPHENOL | | | | | | | | | | | |
| PHENOL | | | | | | | | | | | |
| 2,4,6-TRICHLORO PHENOL | | | | | | | | | | | |
| Use this space (or a separate sheet) to provide information on other metals requested by the permit writer | | | | | | | | | | | |
| | | | | | | | | | | | |
| BASE-NEUTRAL COMPOUNDS | | | | | | | | | | | |
| ACENAPHTHENE | | | | | | | | | | | |
| ACENAPHTYLENE | | | | | | | | | | | |
| ANTHRACENE | | | | | | | | | | | |
| BENZIDINE | | | | | | | | | | | |
| BENZO(A) ANTHRACENE | | | | | | | | | | | |
| BENZO(A)PYRENE | | | | | | | | | | | |

FACILITY NAME AND PERMIT NUMBER:

Town of Marion VA 0086304

Form Approved 1/14/99
OMB Number 2040-0086

Outfall number: 001

(Complete once for each outfall discharging effluent to waters of the United States.)

| POLLUTANT | MAXIMUM DAILY DISCHARGE | | | | AVERAGE DAILY DISCHARGE | | | | | ANALYTICAL METHOD | ML/MDL |
|-------------------------------|-------------------------|-------|------|-------|-------------------------|-------|------|-------|-------------------|-------------------|--------|
| | Conc. | Units | Mass | Units | Conc. | Units | Mass | Units | Number of Samples | | |
| 3,4 BENZO-FLUORANTHENE | | | | | | | | | | | |
| BENZO(GH)PERYLENE | | | | | | | | | | | |
| BENZO(K)FLUORANTHENE | | | | | | | | | | | |
| BIS (2-CHLOROETHOXY) METHANE | | | | | | | | | | | |
| BIS (2-CHLOROETHYL)-ETHER | | | | | | | | | | | |
| BIS (2-CHLOROISOPROPYL) ETHER | | | | | | | | | | | |
| BIS (2-ETHYLHEXYL) PHTHALATE | | | | | | | | | | | |
| 4-BROMOPHENYL PHENYL ETHER | | | | | | | | | | | |
| BUTYL BENZYL PHTHALATE | | | | | | | | | | | |
| 2-CHLORO NAPHTHALENE | | | | | | | | | | | |
| 4-CHLOROPHENYL PHENYL ETHER | | | | | | | | | | | |
| CHRYSENE | | | | | | | | | | | |
| DI-N-BUTYL PHTHALATE | | | | | | | | | | | |
| DI-N-OCTYL PHTHALATE | | | | | | | | | | | |
| DIBENZO(A,H) ANTHRACENE | | | | | | | | | | | |
| 1,2-DICHLORO BENZENE | | | | | | | | | | | |
| 1,3-DICHLORO BENZENE | | | | | | | | | | | |
| 1,4-DICHLORO BENZENE | | | | | | | | | | | |
| 3,3-DICHLORO BENZIDINE | | | | | | | | | | | |
| DIETHYL PHTHALATE | | | | | | | | | | | |
| DIMETHYL PHTHALATE | | | | | | | | | | | |
| 2,4-DINITROTOLUENE | | | | | | | | | | | |
| 2,6-DINITROTOLUENE | | | | | | | | | | | |
| 1,2-DIPHENYLHYDRAZINE | | | | | | | | | | | |

FACILITY NAME AND PERMIT NUMBER:

Town of Marion VA 0086304

Form Approved 1/14/99
OMB Number 2040-0086

Outfall number: 001

(Complete once for each outfall discharging effluent to waters of the United States.)

| POLLUTANT | MAXIMUM DAILY DISCHARGE | | | | AVERAGE DAILY DISCHARGE | | | | | ANALYTICAL METHOD | ML/MDL |
|----------------------------|-------------------------|-------|------|-------|-------------------------|-------|------|-------|-------------------|-------------------|--------|
| | Conc. | Units | Mass | Units | Conc. | Units | Mass | Units | Number of Samples | | |
| FLUORANTHENE | | | | | | | | | | | |
| FLUORENE | | | | | | | | | | | |
| HEXACHLORO BENZENE | | | | | | | | | | | |
| HEXACHLOROBUT ADIENE | | | | | | | | | | | |
| HEXACHLOROCYCLO-PENTADIENE | | | | | | | | | | | |
| HEXA CHLOROETHANE | | | | | | | | | | | |
| INDENO(1,2,3-CD) PYRENE | | | | | | | | | | | |
| ISOPHORONE | | | | | | | | | | | |
| NAPHTHALENE | | | | | | | | | | | |
| NITROBENZENE | | | | | | | | | | | |
| N-NITROSODI-N-PROPYLAMINE | | | | | | | | | | | |
| N-NITROSODI-METHYLAMINE | | | | | | | | | | | |
| N-NITROSODI-PHENYLAMINE | | | | | | | | | | | |
| PHENANTHRENE | | | | | | | | | | | |
| PYRENE | | | | | | | | | | | |
| 1,2,4-TRICHLOROBENZENE | | | | | | | | | | | |

Use this space (or a separate sheet) to provide information on other metals requested by the permit writer

Use this space (or a separate sheet) to provide information on other metals requested by the permit writer

END OF PART D.
REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM 2A YOU MUST COMPLETE

FACILITY NAME AND PERMIT NUMBER:

Town of Marion VA 0086304

Form Approved 1/14/99
OMB Number 2040-0086

SUPPLEMENTAL APPLICATION INFORMATION

PART E. TOXICITY TESTING DATA

POTWs meeting one or more of the following criteria must provide the results of whole effluent toxicity tests for acute or chronic toxicity for each of the facility's discharge points: 1) POTWs with a design flow rate greater than or equal to 1.0 mgd; 2) POTWs with a pretreatment program (or those that are required to have one under 40 CFR Part 403); or 3) POTWs required by the permitting authority to submit data for these parameters.

- At a minimum, these results must include quarterly testing for a 12-month period within the past 1 year using multiple species (minimum of two species), or the results from four tests performed at least annually in the four and one-half years prior to the application, provided the results show no appreciable toxicity, and testing for acute and/or chronic toxicity, depending on the range of receiving water dilution. Do not include information on combined sewer overflows in this section. All information reported must be based on data collected through analysis conducted using 40 CFR Part 136 methods. In addition, this data must comply with QA/QC requirements of 40 CFR Part 136 and other appropriate QA/QC requirements for standard methods for analytes not addressed by 40 CFR Part 136.
- In addition, submit the results of any other whole effluent toxicity tests from the past four and one-half years. If a whole effluent toxicity test conducted during the past four and one-half years revealed toxicity, provide any information on the cause of the toxicity or any results of a toxicity reduction evaluation, if one was conducted.
- If you have already submitted any of the information requested in Part E, you need not submit it again. Rather, provide the information requested in question E.4 for previously submitted information. If EPA methods were not used, report the reasons for using alternate methods. If test summaries are available that contain all of the information requested below, they may be submitted in place of Part E.

If no biomonitoring data is required, do not complete Part E. Refer to the Application Overview for directions on which other sections of the form to complete.

E.1. Required Tests. **HAVE ALREADY BEEN SUBMITTED ON ANNUAL BASIS**

Indicate the number of whole effluent toxicity tests conducted in the past four and one-half years.

☒ chronic ☒ acute

E.2. Individual Test Data. Complete the following chart for each whole effluent toxicity test conducted in the last four and one-half years. Allow one column per test (where each species constitutes a test). Copy this page if more than three tests are being reported.

Test number: _____ Test number: _____ Test number: _____

a. Test information.

| | | | |
|-----------------------------------|--|--|--|
| Test Species & test method number | | | |
| Age at initiation of test | | | |
| Outfall number | | | |
| Dates sample collected | | | |
| Date test started | | | |
| Duration | | | |

b. Give toxicity test methods followed.

| | | | |
|--|--|--|--|
| Manual title | | | |
| Edition number and year of publication | | | |
| Page number(s) | | | |

c. Give the sample collection method(s) used. For multiple grab samples, indicate the number of grab samples used.

| | | | |
|-------------------|--|--|--|
| 24-Hour composite | | | |
| Grab | | | |

d. Indicate where the sample was taken in relation to disinfection. (Check all that apply for each.)

| | | | |
|----------------------|--|--|--|
| Before disinfection | | | |
| After disinfection | | | |
| After dechlorination | | | |

FACILITY NAME AND PERMIT NUMBER:

Town of Marion VA 0086304

Form Approved 1/14/99
OMB Number 2040-0086

Test number: _____

Test number: _____

Test number: _____

e. Describe the point in the treatment process at which the sample was collected.

Sample was collected:

f. For each test, include whether the test was intended to assess chronic toxicity, acute toxicity, or both

Chronic toxicity

Acute toxicity

g. Provide the type of test performed.

Static

Static-renewal

Flow-through

h. Source of dilution water. If laboratory water, specify type; if receiving water, specify source.

Laboratory water

Receiving water

i. Type of dilution water. If salt water, specify "natural" or type of artificial sea salts or brine used.

Fresh water

Salt water

j. Give the percentage effluent used for all concentrations in the test series.

k. Parameters measured during the test. (State whether parameter meets test method specifications)

pH

Salinity

Temperature

Ammonia

Dissolved oxygen

l. Test Results.

Acute:

Percent survival in 100%
effluent

%

%

%

LC₅₀

95% C.I.

%

%

%

Control percent survival

%

%

%

Other (describe)

FACILITY NAME AND PERMIT NUMBER:

Town of Marion VA 0086304

Form Approved 1/14/99
OMB Number 2040-0086

Chronic:

| | | | |
|--------------------------|---|---|---|
| NOEC | % | % | % |
| IC ₂₅ | % | % | % |
| Control percent survival | % | % | % |
| Other (describe) | | | |

m. Quality Control/Quality Assurance.

| | | | |
|---|-----|-----|-----|
| Is reference toxicant data available? | | | |
| Was reference toxicant test within acceptable bounds? | | | |
| What date was reference toxicant test run (MM/DD/YYYY)? | / / | / / | / / |
| Other (describe) | | | |

E.3. Toxicity Reduction Evaluation. Is the treatment works involved in a Toxicity Reduction Evaluation?

☐ Yes ☐ No

If yes, describe: _____

E.4. Summary of Submitted Biomonitoring Test Information. If you have submitted biomonitoring test information, or information regarding the cause of toxicity, within the past four and one-half years, provide the dates the information was submitted to the permitting authority and a summary of the results.

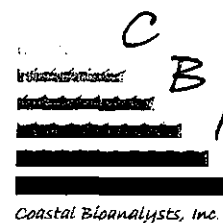
Date submitted: / / (MM/DD/YYYY)

Summary of results: (see instructions)

END OF PART E.

REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM 2A YOU MUST COMPLETE.

Client: Olver, Inc.
 Project ID: OLVR1033
 Client Sample ID: Town of Marion WWTP Outfall 001
 Permit No: VA0086304
 Sample Period: 7/12/10-7/15/10



Report of Analysis: Whole Effluent Toxicity (WET)

| | |
|--|---|
| Submitted To: Ms. Amy Alexander Olver, Inc. 1116 South Main Street Blacksburg, VA 24060 | Prepared By: Coastal Bioanalysts, Inc. 6400 Enterprise Court Gloucester, VA 23061 (804) 694-8285 www.coastalbio.com Contact: Peter F. De Lisle, Technical Director |
|--|---|

| Acute Test Results | | | | |
|-------------------------------|-----------|----------|--------------------|-------|
| Species-Test Method | 48-h LC50 | 95% C.L. | T.U. _{Ac} | NOAEC |
| <i>C. dubia</i> EPA 2002.0 | >100 | N/A | <1.00 | N/A |
| <i>P. promelas</i> EPA 2000.0 | >100 | N/A | <1.00 | N/A |

| Chronic Test Results | | | | | | | | | | |
|-------------------------------|--------------|------|------|------|------|-------------------|------|-----------|---------------|--------------------|
| Species-Test Method | Endpoint | NOEC | LOEC | ChrV | PMSD | T.U. _C | IC25 | 48-h LC50 | LC50 95% C.L. | T.U. _{Ac} |
| <i>C. dubia</i> EPA 1002.0 | Survival | 100 | >100 | >100 | N/A | 1.00 | N/A | >100 | N/A | <1.00 |
| | Reproduction | 100 | >100 | >100 | 33 | 1.00 | 12.2 | N/A | N/A | N/A |
| <i>P. promelas</i> EPA 1000.0 | Survival | 100 | >100 | >100 | N/A | 1.00 | N/A | >100 | N/A | <1.00 |
| | Biomass | 100 | >100 | >100 | 11 | 1.00 | >100 | N/A | N/A | N/A |

* Details regarding test conduct and data analysis provided in attached bench sheets and printouts as applicable.

| Acute Test Biological Summary Data | | Sample Concentration (%) | | | | | |
|------------------------------------|---------------|--------------------------|------|------|------|------|-----|
| Species-Method | Endpoint | Control | 6.25 | 12.5 | 25.0 | 50.0 | 100 |
| <i>C. dubia</i> EPA 2002.0 | Survival (%): | 100 | 100 | 100 | 100 | 100 | 100 |
| <i>P. promelas</i> EPA 2000.0 | Survival (%): | 100 | 100 | 100 | 100 | 95 | 100 |

| Chronic Test Biological Summary Data | | Sample Concentration (%) | | | | | |
|--------------------------------------|------------------|--------------------------|-------|-------|-------|-------|-------|
| Species-Method | Endpoint | Control | 13.7 | 22.5 | 37.0 | 60.8 | 100 |
| <i>C. dubia</i> EPA 1002.0 | Survival (%): | 100 | 100 | 90 | 100 | 100 | 100 |
| | Repro (# young): | 24.2 | 17.4 | 16.6 | 16.8 | 18.4 | 16.8 |
| <i>P. promelas</i> EPA 1000.0 | Survival (%): | 98 | 98 | 100 | 100 | 95 | 93 |
| | Biomass (mg): | 0.749 | 0.779 | 0.785 | 0.737 | 0.707 | 0.699 |





OLVER
INCORPORATED

Consulting Engineers and Applied Scientists

August 10, 2006

Mr. Donald Coley
Superintendent
Town of Marion Wastewater Treatment Plant
515 Church Street
Marion, VA 24354

Re: Annual Whole Effluent Toxicity (WET) Testing Results:
Olver Project Number: 61024

Dear Mr. Coley:

Enclosed are three copies of the report which describes the performance and the results of the sixth annual acute and chronic toxicity testing performed by Olver Incorporated for the Town of Marion Wastewater Treatment Plant. Testing consisted of 48-hour static acute *Ceriodaphnia dubia* and fathead minnow (*Pimephales promelas*) tests, a 3-brood chronic *Ceriodaphnia* survival and reproduction test, and a 7-day chronic fathead minnow test using 24-hour composite effluent samples from Outfall 001.

The results of this testing showed that the effluent exhibited no acute toxicity effects on the test organisms. In the chronic testing, *Ceriodaphnia* survival and reproduction were not adversely affected by the effluent. Likewise, fathead minnow survival was not adversely affected by the effluent. However, fathead minnow growth was significantly affected in the 100% effluent concentration, though no toxicity effects were observed near the current effluent discharge limit of 10%. The toxicity end-points for all tests are summarized as follows:

| Testing Dates | Testing Performed | Toxicity End-Point (% Effluent) | |
|-------------------|-------------------------------------|---------------------------------|------------------------------------|
| | | NOEC or EC ₅₀ | TU _c or TU _d |
| 8/02/06 – 8/04/06 | 48-Hour Acute <i>Ceriodaphnia</i> | 100% | < 1.0 |
| 8/02/06 – 8/04/06 | 48-Hour Acute Fathead Minnow | 100% | < 1.0 |
| 8/01/06 – 8/06/06 | 3-Brood <i>Ceriodaphnia</i> Chronic | 100% | 1.0 |
| 8/01/06 – 8/08/06 | 7-Day Fathead Minnow Chronic | 60.8% | 1.6 |

I have provided for your review three copies of each report, two copies of which must be submitted to the DEQ by October 10th, 2006.

Blackburg, VA

Charlottesville, VA

Richmond, VA

Chesapeake, VA

Serving Virginia and the Carolinas for over 30 years

1116 South Main Street
Blacksburg, VA 24060

Phone: (540) 552-5548

Fax: (540) 552-5577

www.olver.com

TOXICITY TEST DATA SUMMARY SHEET

Page 1 of 1

Client/Facility: Marion WWTP

Toxicant/Effluent: 001

NPDES Permit No.: VA0086034

Job No.: 61024

ACUTE TOXICITY TEST RESULTS

| | | |
|----------------------------------|-----------------|--------------------|
| EPA-821-R-02-012 | <i>C. dubia</i> | <i>P. promelas</i> |
| Test Date(s): | 8/29 - 8/31/07 | 8/29 - 8/31/07 |
| Test Conditions: | <24 hours | 4 days |
| Test Organism Age | EPA MHW | EPA MHW |
| Dilution Water: | Oliver Inc. | Oliver Inc. |
| Organism Source: | Continuous | Continuous |
| Aeration: | Continuous | Continuous |
| Test Acceptability: | | |
| Control Survival ($\geq 90\%$) | 100% | 100% |
| Survival in 100% | 100% | 100% |
| No. of Replicates | 4 | 2 |
| No. of Organisms/Replicate | 5 | 10 |
| Statistical Analyses Results: | | |
| 48-Hour LC_{50} | >100% | >100% |
| 95% Confidence Interval | NA | NA |
| LC_{50} Method | NA | NA |
| TU_a (= 100/ LC_{50}) | <1.0 | <1.0 |
| NOAEC (if required) | -- | -- |
| Normal Distribution? | -- | -- |
| Homogeneous Variance? | -- | -- |
| NOAEC Method | -- | -- |

Comments/Notes:

CHRONIC TOXICITY TEST RESULTS

| | | |
|--|-----------------|------------------------|
| EPA-821-R-02-013 | <i>C. dubia</i> | <i>P. promelas</i> |
| Test Date(s): | 8/27 - 9/2/07 | 8/27 - 9/3/07 |
| Test Conditions: | | |
| Test Organism Age | 4 - 8 hours | 24-48 hrs. |
| Dilution Water: | EPA MHW | EPA MHW |
| Organism Source: | Oliver Inc. | Oliver Inc. |
| Aeration: | Continuous | Continuous |
| Test Acceptability: | | |
| Control Survival ($\geq 80\%$) | 100% | 97.5% |
| No. of Control Females | 10 | |
| % Control Females 3 Broods ($\geq 60\%$) | 100% | |
| Avg. No. of Young/Surviving Female (≥ 15) | 25.4 | |
| Average Weight/Surviving Control (≥ 0.25 mg) | | 0.313 mg |
| Survival in Highest (100%) Concentration | 90% | 97.5% |
| Number of Replicates | 10 | 4 |
| No. of Organisms/Replicate | 1 | 10 |
| Statistical Analyses Results: | | |
| Normal Distribution? (Yes/No) | No | S. No G. Yes |
| Homogeneous Variance? (Yes/No) | No | S. No G. Yes |
| NOEC Method | | S/G: Steel's/Dunnett's |
| NOEC: Survival | Steel's 100% | 100% |
| 48-Hour LC_{50} | >100% | >100% |
| TU_a : Survival (= 100/NOEC) | 1.0 | 1.0 |
| NOEC: Reproduction/Growth | 60.8% | 100% |
| TU_a : Reproduction/Growth (= 100/NOEC) | 1.6 | 1.0 |
| IC_{25} : Reproduction/Growth | 90.1% | >100% |
| Upper Percent MSD*: Reproduction ($\leq 47\%$) | 20.3% | |
| Upper Percent MSD*: Growth ($\leq 30\%$) | | 24.5% |

*MSD was calculated using Dunnett's Test (or Bonferroni t-Test).

N/A = Not Applicable

TOXICITY TEST DATA SUMMARY SHEET

Page 1 of 1

Client/Facility: Marion WWTP
Toxicant/Effluent: 001

NPDES Permit No.: VA0086034

Job No.: 61024

ACUTE TOXICITY TEST RESULTS

| | | |
|---|---------------|---------------|
| EPA-821-R-02-012 | C. dubia | P. promelas |
| Test Date(s): | 7/30 - 8/1/08 | 7/30 - 8/1/08 |
| Test Conditions: | <24 hours | 4 days |
| Test Organism Age | | |
| Dilution Water: | EPA MHW | EPA MHW |
| Organism Source: | Olver Inc. | Olver Inc. |
| Aeration: | Continuous | Continuous |
| Test Acceptability: | | |
| Control Survival ($\geq 90\%$) | 100% | 100% |
| Survival in 100% | 95% | 95% |
| No. of Replicates | 4 | 2 |
| No. of Organisms/Replicate | 5 | 10 |
| Statistical Analyses Results: | | |
| 48-Hour LC ₅₀ | >100% | >100% |
| 95% Confidence Interval | N/A | N/A |
| LC ₅₀ Method | N/A | N/A |
| TU _a (= 100/LC ₅₀) | <1.0 | <1.0 |
| NOAEC (if required) | -- | -- |
| Normal Distribution? | -- | -- |
| Homogeneous Variance? | -- | -- |
| NOAEC Method | -- | -- |

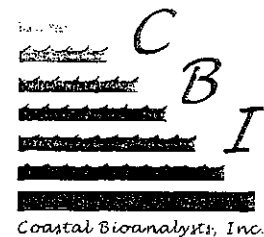
CHRONIC TOXICITY TEST RESULTS

| | | |
|---|-------------------|-------------------|
| EPA-821-R-02-013 | C. dubia | P. promelas |
| Test Date(s): | 9/2 - 9/9/08 | 9/2 - 9/9/08 |
| Test Conditions: | | |
| Test Organism Age | 2.25 - 6.25 hours | 1 - 5 hrs. |
| Dilution Water: | EPA MHW | EPA MHW |
| Organism Source: | Olver Inc. | Olver Inc. |
| Aeration: | Continuous | Continuous |
| Test Acceptability: | | |
| Control Survival ($\geq 80\%$) | 100% | 100% |
| No. of Control Females | 10 | |
| % Control Females 3 Broods ($\geq 60\%$) | 80% | |
| Avg. No. of Young/Surviving Female (≥ 15) | 15.0 | |
| Average Weight/Surviving Control (≥ 0.25 mg): | | 0.324 mg |
| Survival in Highest (100%) Concentration | 100% | 100% |
| Number of Replicates | 10 | 4 |
| No. of Organisms/Replicate | 1 | 10 |
| Statistical Analyses Results: | | |
| Normal Distribution? (Yes/No) | Yes | S: No G: Yes |
| Homogeneous Variance? (Yes/No) | Yes | S: No G: Yes |
| NOEC Method | | S/G: |
| NOEC: Survival | Dunnett's | Steel's/Dunnett's |
| 48-Hour LC ₅₀ | 100% | 100% |
| TU _c : Survival (= 100/NOEC) | >100% | >100% |
| NOEC: Reproduction/Growth | 1.0 | 1.0 |
| TU _c : Reproduction/Growth (= 100/NOEC) | 100% | 22.5% |
| IC ₂₅ : Reproduction/Growth | 1.0 | 4.44 |
| Upper Percent MSD*: Reproduction ($\leq 47\%$) | >100% | >100% |
| Upper Percent MSD*: Growth ($\leq 30\%$) | 46.9% | |
| | | 13.4% |

*MSD was calculated using Dunnett's Test (or Bonferroni t-Test).

N/A = Not Applicable

Client: Olver, Inc.
 Project ID: OLVR0904
 Client Sample ID: Town of Marion WWTP Outfall 001
 Permit No: VA0086304
 Sample Period: 7/27/09-7/30/09



Report of Analysis: Whole Effluent Toxicity (WET)

| | |
|--|---|
| Submitted To: Ms. Amy Alexander Olver, Inc. 1116 South Main Street Blacksburg, VA 24060 | Prepared By: Coastal Bioanalysts, Inc. 6400 Enterprise Court Gloucester, VA 23061 (804) 694-8285 www.coastalbio.com Contact: Peter F. De Lisle, Technical Director |
|--|---|

| Acute Test Results | | | | |
|-------------------------------|-----------|----------|--------------------|-------|
| Species-Test Method | 48-h LC50 | 95% C.L. | T.U. _{Ac} | NOAEC |
| <i>C. dubia</i> EPA 2002.0 | >100 | N/A | <1.00 | N/A |
| <i>P. promelas</i> EPA 2000.0 | >100 | N/A | <1.00 | N/A |

| Chronic Test Results | | | | | | | | | | |
|-------------------------------|--------------|------|------|------|------|-------------------|------|-----------|---------------|--------------------|
| Species-Test Method | Endpoint | NOEC | LOEC | ChrV | PMSD | T.U. _C | IC25 | 48-h LC50 | LC50 95% C.L. | T.U. _{Ac} |
| <i>C. dubia</i> EPA 1002.0 | Survival | 100 | >100 | >100 | N/A | 1.00 | N/A | >100 | N/A | <1.00 |
| | Reproduction | 100 | >100 | >100 | 26 | 1.00 | >100 | N/A | N/A | N/A |
| <i>P. promelas</i> EPA 1000.0 | Survival | 100 | >100 | >100 | N/A | 1.00 | N/A | >100 | N/A | <1.00 |
| | Biomass | 100 | >100 | >100 | 36* | 1.00 | 55.1 | N/A | N/A | N/A |

Replicate-specific, sporadic mortality in higher effluent concentrations (60.8% and 100% concentrations), but not controls, suggests the presence of an indigenous fish pathogen as the cause of the high test PMSD. Removal of these treatments with high coefficients of variation for survival (39-40%) from the statistical analysis resulted in an acceptable PMSD of 20%, indicating sufficient test sensitivity at concentrations greater than or equal to the critical (IWC) concentration of 16%. Details regarding test conduct and data analysis provided in attached bench sheets and printouts as applicable.

| Acute Test Biological Summary Data | | Sample Concentration (%) | | | | | |
|------------------------------------|---------------|--------------------------|------|------|-----|-----|-----|
| Species-Method | Endpoint | Control | 6.25 | 12.5 | 25 | 50 | 100 |
| <i>C. dubia</i> EPA 2002.0 | Survival (%): | 100 | 100 | 100 | 100 | 100 | 100 |
| <i>P. promelas</i> EPA 2000.0 | Survival (%): | 100 | 100 | 100 | 100 | 100 | 100 |

| Chronic Test Biological Summary Data | | Sample Concentration (%) | | | | | |
|--------------------------------------|------------------|--------------------------|-------|-------|-------|-------|-------|
| Species-Method | Endpoint | Control | 13.7 | 22.5 | 37.0 | 60.8 | 100 |
| <i>C. dubia</i> EPA 1002.0 | Survival (%): | 90 | 100 | 100 | 100 | 90 | 100 |
| | Repro (# young): | 22.9 | 27.7 | 23.6 | 27.1 | 26.3 | 26.4 |
| <i>P. promelas</i> EPA 1000.0 | Survival (%): | 100 | 93 | 88 | 93 | 70 | 75 |
| | Biomass (mg): | 0.816 | 0.775 | 0.713 | 0.741 | 0.571 | 0.581 |

FILED

AUG 19 2009

OLVER INCORPORATED



A CHA Company

October 12, 2010

Ms. Ruby Scott
Southwest Regional Office
Virginia DEQ
355 Deadmore Street
P.O. Box 1688
Abingdon, VA 24212

**Re: Town of Marion WWTP Annual Whole Effluent Toxicity (WET) Testing Results;
VPDES Permit No. VA0086304, Olver Project Number: 21998**

Dear Ms. Scott:

Enclosed are two copies of the report which describes the performance and the results of the annual acute and chronic toxicity testing performed for the Town of Marion Wastewater Treatment Plant. Testing consisted of - 48-hour static acute *Ceriodaphnia dubia* and fathead minnow (*Pimephales promelas*) tests, a 3-brood chronic *Ceriodaphnia* survival and reproduction test, and a 7-day chronic fathead minnow test using 24-hour composite effluent samples from Outfall 001. This report is submitted on behalf of the Town of Marion.

The results of this testing showed that the effluent did not exhibit acute or chronic toxicity to the test organisms. The toxicity end-points for all tests are summarized as follows:

| Testing Dates | Testing Performed | Toxicity End-Point (% Effluent) | |
|-------------------|-------------------------------------|---------------------------------|------------------------------------|
| | | NOEC or LC ₅₀ | TU _L or TU _C |
| 7/14/10 – 7/16/10 | 48-Hour Acute <i>Ceriodaphnia</i> | >100% | < 1.0 |
| 7/14/10 – 7/16/10 | 48-Hour Acute Fathead Minnow | >100% | < 1.0 |
| 7/13/10 – 7/19/10 | 3-Brood <i>Ceriodaphnia</i> Chronic | 100% | 1.0 |
| 7/13/10 – 7/20/10 | 7-Day Fathead Minnow Chronic | 100% | 1.0 |

Please do not hesitate to contact me should you have any questions, comments, or additional needs.

Very truly yours,

R. Lawrence Hoffman
Director of Technical Services-Environmental/Planning

RLH/mlc
Enclosures

cc: Mr. Doug Teaster, Superintendent, Town of Marion Wastewater Treatment Plant (w/o enclosures)
Ashley Ruble, Scientist I, Olver – A CHA Company (w/o enclosures)



Consulting Engineers and Applied Scientists

August 10, 2006

Mr. Donald Coley
Superintendent
Town of Marion Wastewater Treatment Plant
515 Church Street
Marion, VA 24354

Re: Annual Whole Effluent Toxicity (WET) Testing Results;
Olver Project Number: 61024

Dear Mr. Coley:

Enclosed are three copies of the report which describes the performance and the results of the sixth annual acute and chronic toxicity testing performed by Olver Incorporated for the Town of Marion Wastewater Treatment Plant. Testing consisted of 48-hour static acute *Ceriodaphnia dubia* and fathead minnow (*Pimephales promelas*) tests, a 3-brood chronic *Ceriodaphnia* survival and reproduction test, and a 7-day chronic fathead minnow test using 24-hour composite effluent samples from Outfall 001.

The results of this testing showed that the effluent exhibited no acute toxicity effects on the test organisms. In the chronic testing, *Ceriodaphnia* survival and reproduction were not adversely affected by the effluent. Likewise, fathead minnow survival was not adversely affected by the effluent. However, fathead minnow growth was significantly affected in the 100% effluent concentration, though no toxicity effects were observed near the current effluent discharge limit of 10%. The toxicity end-points for all tests are summarized as follows:

| Testing Dates | Testing Performed | Toxicity End-Point (% Effluent) | |
|-------------------|-------------------------------------|---------------------------------|------------------------------------|
| | | NOEC or LC ₅₀ | TU _c or TU _a |
| 8/02/06 – 8/04/06 | 48-Hour Acute <i>Ceriodaphnia</i> | 100% | < 1.0 |
| 8/02/06 – 8/04/06 | 48-Hour Acute Fathead Minnow | 100% | < 1.0 |
| 8/01/06 – 8/06/06 | 3-Brood <i>Ceriodaphnia</i> Chronic | 100% | 1.0 |
| 8/01/06 – 8/08/06 | 7-Day Fathead Minnow Chronic | 60.8% | 1.6 |

I have provided for your review three copies of each report, two copies of which must be submitted to the DEQ by October 10th, 2006.

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Mr. Donald Coley
August 10, 2006
Page 2 of 2

As always, should you have any questions regarding these or other matters, please do not hesitate to contact me at our Blacksburg office, (540) 552-5548.

Sincerely,

OLVER INCORPORATED



Branden Locke
Assistant Bioassay Group Manager

BAL/egl

Enclosures

cc: Susan Mirlohi, Acting Bioassay Manager, Olver Incorporated

FACILITY NAME AND PERMIT NUMBER:

Town of Marion VA 0086304

Form Approved 1/14/99
OMB Number 2040-0086

SUPPLEMENTAL APPLICATION INFORMATION

PART F. INDUSTRIAL USER DISCHARGES AND RCRA/CERCLA WASTES

All treatment works receiving discharges from significant industrial users or which receive RCRA, CERCLA, or other remedial wastes must complete part F.

GENERAL INFORMATION:

F.1. Pretreatment program. Does the treatment works have, or is subject to, an approved pretreatment program?

☒ Yes ☐ No

F.2. Number of Significant Industrial Users (SIUs) and Categorical Industrial Users (CIUs). Provide the number of each of the following types of industrial users that discharge to the treatment works.

a. Number of non-categorical SIUs. 0

b. Number of CIUs. 2

SIGNIFICANT INDUSTRIAL USER INFORMATION::

Supply the following information for each SIU. If more than one SIU discharges to the treatment works, copy questions F.3 through F.8 and provide the information requested for each SIU.

F.3. Significant Industrial User Information. Provide the name and address of each SIU discharging to the treatment works. Submit additional pages as necessary.

Name: General Dynamics

Mailing Address: 150 Johnston Road

Marion Va. 24354

F.4. Industrial Processes. Describe all the industrial processes that affect or contribute to the SIU's discharge.

SIC codes 3448,3728,3724,3764

F.5. Principal Product(s) and Raw Material(s). Describe all of the principal processes and raw materials that affect or contribute to the SIU's discharge.

Principal product(s): Shelters, Defence Department, Winglets

Raw material(s): Metal, Plastic, Fiberglass

F.6. Flow Rate.

a. Process wastewater flow rate. Indicate the average daily volume of process wastewater discharge into the collection system in gallons per day (gpd) and whether the discharge is continuous or intermittent.

60,000 gpd (☒ continuous or ☐ intermittent)

b. Non-process wastewater flow rate. Indicate the average daily volume of non-process wastewater flow discharged into the collection system in gallons per day (gpd) and whether the discharge is continuous or intermittent.

20,000 gpd (☐ continuous or ☒ intermittent)

F.7. Pretreatment Standards. Indicate whether the SIU is subject to the following:

a. Local limits ☒ Yes ☐ No

b. Categorical pretreatment standards ☒ Yes ☐ No

If subject to categorical pretreatment standards, which category and subcategory?

Part 433 Subpart A

FACILITY NAME AND PERMIT NUMBER:

Town of Marion VA 0086304

Form Approved 1/14/99
OMB Number 2040-0086

SUPPLEMENTAL APPLICATION INFORMATION

PART F. INDUSTRIAL USER DISCHARGES AND RCRA/CERCLA WASTES

All treatment works receiving discharges from significant industrial users or which receive RCRA, CERCLA, or other remedial wastes must complete part F.

GENERAL INFORMATION:

F.1. Pretreatment program. Does the treatment works have, or is subject to, an approved pretreatment program?

☒ Yes ☐ No

F.2. Number of Significant Industrial Users (SIUs) and Categorical Industrial Users (CIUs). Provide the number of each of the following types of industrial users that discharge to the treatment works.

a. Number of non-categorical SIUs. 0

b. Number of CIUs. 2

SIGNIFICANT INDUSTRIAL USER INFORMATION:

Supply the following information for each SIU. If more than one SIU discharges to the treatment works, copy questions F.3 through F.8 and provide the information requested for each SIU.

F.3. Significant Industrial User Information. Provide the name and address of each SIU discharging to the treatment works. Submit additional pages as necessary.

Name: Utility Trailer, Inc.

Mailing Address: P.O. Box 230

Atkins Va. 24311

F.4. Industrial Processes. Describe all the industrial processes that affect or contribute to the SIU's discharge.

SIC codes 3715

F.5. Principal Product(s) and Raw Material(s). Describe all of the principal processes and raw materials that affect or contribute to the SIU's discharge.

Principal product(s): Semi Trailers

Raw material(s): Aluminum, Steel, Iron

F.6. Flow Rate.

a. Process wastewater flow rate. Indicate the average daily volume of process wastewater discharge into the collection system in gallons per day (gpd) and whether the discharge is continuous or intermittent.

0 gpd (continuous or intermittent)

b. Non-process wastewater flow rate. Indicate the average daily volume of non-process wastewater flow discharged into the collection system in gallons per day (gpd) and whether the discharge is continuous or intermittent.

5000 gpd (continuous or X intermittent)

F.7. Pretreatment Standards. Indicate whether the SIU is subject to the following:

a. Local limits ☐ Yes ☒ No

b. Categorical pretreatment standards ☐ Yes ☒ No

If subject to categorical pretreatment standards, which category and subcategory?

Company has eliminated permitted process, but wants to keep permit if needed in future.

FACILITY NAME AND PERMIT NUMBER:

Town of Marion VA 0086304

Form Approved 1/14/99
OMB Number 2040-0086

F.8. Problems at the Treatment Works Attributed to Waste Discharge by the SIU. Has the SIU caused or contributed to any problems (e.g., upsets, interference) at the treatment works in the past three years?

☐ Yes ☒ No

If yes, describe each episode.

RCRA HAZARDOUS WASTE RECEIVED BY TRUCK, RAIL, OR DEDICATED PIPELINE:

F.9. RCRA Waste. Does the treatment works receive or has it in the past three years received RCRA hazardous waste by truck, rail or dedicated pipe?

☐ Yes ☐ No (go to F.12)

F.10 Waste transport. Method by which RCRA waste is received (check all that apply):

☐ Truck ☐ Rail ☐ Dedicated Pipe

F.11 Waste Description. Give EPA hazardous waste number and amount (volume or mass, specify units).

EPA Hazardous Waste Number

Amount

Units

CERCLA (SUPERFUND) WASTEWATER, RCRA REMEDIATION/CORRECTIVE ACTION WASTEWATER, AND OTHER REMEDIAL ACTIVITY WASTEWATER:

F.12 Remediation Waste. Does the treatment works currently (or has it been notified that it will) receive waste from remedial activities?

☐ Yes (complete F.13 through F.15.) ☐ No

F.13 Waste Origin. Describe the site and type of facility at which the CERCLA/RCRA or other remedial waste originates (or is expected to originate in the next five years).

F.14 Pollutants. List the hazardous constituents that are received (or are expected to be received). Include data on volume and concentration, if known. (Attach additional sheets if necessary.)

F.15 Waste Treatment.

a. Is this waste treated (or will be treated) prior to entering the treatment works?

☐ Yes ☐ No

If yes, describe the treatment (provide information about the removal efficiency):

b. Is the discharge (or will the discharge be) continuous or intermittent?

☐ Continuous

☐ Intermittent

If intermittent, describe discharge schedule.

END OF PART F.

REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM 2A YOU MUST COMPLETE

FACILITY NAME AND PERMIT NUMBER:

Town of Marion VA 0086304

Form Approved 1/14/99
OMB Number 2040-0086

SUPPLEMENTAL APPLICATION INFORMATION

PART G. COMBINED SEWER SYSTEMS

If the treatment works has a combined sewer system, complete Part G.

G.1. System Map. Provide a map indicating the following: (may be included with Basic Application Information)

- All CSO discharge points.
- Sensitive use areas potentially affected by CSOs (e.g., beaches, drinking water supplies, shellfish beds, sensitive aquatic ecosystems, and outstanding natural resource waters).
- Waters that support threatened and endangered species potentially affected by CSOs.

G.2. System Diagram. Provide a diagram, either in the map provided in G.1 or on a separate drawing, of the combined sewer collection system that includes the following information.

- Location of major sewer trunk lines, both combined and separate sanitary.
- Locations of points where separate sanitary sewers feed into the combined sewer system.
- Locations of in-line and off-line storage structures.
- Locations of flow-regulating devices.
- Locations of pump stations.

CSO OUTFALLS:

Complete questions G.3 through G.6 once for each CSO discharge point.

G.3 Description of Outfall.

- Outfall number _____
- Location _____
(city or town, if applicable) (Zip Code) _____
(County) (State) _____
(Latitude) (Longitude) _____
- Distance from shore (if applicable) _____ ft.
- Depth below surface (if applicable) _____ ft.
- Which of the following were monitored during the last year for this CSO?
☐ Rainfall ☐ CSO pollutant concentrations ☐ CSO frequency
☐ CSO flow volume ☐ Receiving water quality
- How many storm events were monitored during the last year? _____

G.4. CSO Events.

- Give the number of CSO events in the last year.
_____ events (☐ actual or ☐ approx.)
- Give the average duration per CSO event.
_____ hours (☐ actual or ☐ approx.)

FACILITY NAME AND PERMIT NUMBER:

Town of Marion VA 0086304

Form Approved 1/14/99
OMB Number 2040-0088

- c. Give the average volume per CSO event.
_____ million gallons (☐ actual or ☐ approx.)
- d. Give the minimum rainfall that caused a CSO event in the last year
_____ Inches of rainfall

G.5. Description of Receiving Waters.

- a. Name of receiving water: _____
- b. Name of watershed/river/stream system: _____
United State Soil Conservation Service 14-digit watershed code (if known): _____
- c. Name of State Management/River Basin: _____
United States Geological Survey 8-digit hydrologic cataloging unit code (if known): _____

G.6. CSO Operations.

Describe any known water quality impacts on the receiving water caused by this CSO (e.g., permanent or intermittent beach closings, permanent or intermittent shell fish bed closings, fish kills, fish advisories, other recreational loss, or violation of any applicable State water quality standard).

END OF PART G.

REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM 2A YOU MUST COMPLETE.

Additional information, if provided, will appear on the following pages.



| | |
|-------------------------|-----------------------|
| DESIGNED BY | SCALE 1" = 2000' |
| DRAWN BY | DATE DECEMBER 2010 |
| PROJECT NO. 10812-00 | |

| |
|--|
| TOWN OF MARION WWTP CO-GENERATION PROJECT |
| LOCATION MAP |



| |
|-----------------------|
| SHEET EXHIBIT 1 |
|-----------------------|



Consulting Engineers and Applied Scientists

Received

JAN 05 2011

DEQ-SWRO

October 15, 2009

Mr. Donald Coley
Superintendent
Town of Marion Wastewater Treatment Plant
515 Church Street
Marion, VA 24354

Re: Chemical Analysis Results; Permit Number: VA0086304;
Olver Project Number: 61024

Dear Mr. Coley:

Enclosed is laboratory analysis report (9249646) that depicts the results of the analysis of the wastewater samples collected on July 28, 2009 from the Town of Marion Wastewater Treatment Plant. Also enclosed is the chain-of-custody documentation that accompanied the samples. These analyses were performed by Pace Analytical Services, Inc. with the analysis of tributyltin subcontracted to Data Analysis Technologies, Inc.

Also enclosed is laboratory analysis report (9254140) that depicts the results of the analysis of a wastewater sample collected on September 29, 2009. This sample was re-analyzed for follow-up cyanide and total xylenes due to an expired holding time and the incorrect analysis method for xylenes performed on the first sample. The analysis of cyanide and total xylenes was also performed by Pace Analytical Services, Inc.; the chain-of-custody documentation is also enclosed.

If you should have any questions concerning this report or if you need any additional information, please do not hesitate to contact me.

Sincerely,

OLVER INCORPORATED


R. Lawrence Hoffman

Director of Environmental Services

RLH/mlc

Enclosures

cc: Amy Alexander, Olver Incorporated (w/o enclosures)

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Charlotte, NC

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Cary, NC

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2225 Riverside Dr.
Asheville, NC 28804
(828)254-7176

Pace Analytical Services, Inc.
9800 Kinney Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

August 14, 2009

Mr. Robert Henika
Olver Inc
1116 South Main Street
Blacksburg, VA 24060

RE: Project: TOWN OF MARION WWTP 61024
Pace Project No.: 9249646

Dear Mr. Henika:

Enclosed are the analytical results for sample(s) received by the laboratory on July 29, 2009. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

Inorganic Wet Chemistry and Metals analyses were performed at our Pace Asheville laboratory and Organic testing was performed at our Pace Huntersville laboratory unless otherwise footnoted. All Microbiological analyses were performed at the laboratory where the samples were received.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Brandon Helton for
Kevin Herring
kevin.herring@pacelabs.com
Project Manager

Enclosures

cc: Ms. Sandra Warner, Olver, Inc.

REPORT OF LABORATORY ANALYSIS

Page 1 of 34

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CERTIFICATIONS

Project: TOWN OF MARION WWTP 61024
Pace Project No.: 9249646

Pennsylvania Certification IDs

Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California/NELAC Certification #: 04222CA
Colorado Certification
Connecticut Certification #: PH 0694
Delaware Certification
Florida/NELAC Certification #: E87683
Georgia Certification #: 968
Guam/PADEP Certification
Hawaii/PADEP Certification
Idaho Certification
Illinois/PADEP Certification
Indiana/PADEP Certification
Iowa Certification #: 391
Kansas/NELAC Certification #: E-10358
Kentucky Certification #: 90133
Louisiana/NELAC Certification #: 4086
Louisiana/NELAC Certification #: LA080002
Maine Certification #: PA0091
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification

Minnesota Certification #: 042-999-425
Missouri Certification #: 235
Montana Certification #: Cert 0082
Nevada Certification
New Hampshire/NELAC Certification #: 2976
New Jersey/NELAC Certification #: PA 051
New Mexico Certification
New York/NELAC Certification #: 10888
North Carolina Certification #: 42706
Oregon/NELAC Certification #: PA200002
Pennsylvania/NELAC Certification #: 65-282
Puerto Rico Certification #: PA01457
South Dakota Certification
Tennessee Certification #: TN2867
Texas/NELAC Certification #: T104704188-09 TX
Utah/NELAC Certification #: ANTE
Virgin Island/PADEP Certification
Virginia Certification #: 00112
Washington Certification #: C1941
West Virginia Certification #: 143
Wisconsin/PADEP Certification
Wyoming Certification #: 8TMS-Q

Indiana Certification IDs

Kansas Certification #: E-10247
Indiana Certification #: C-49-06
Illinois/NELAC Certification #: 100418
West Virginia Certification #: 330

Pennsylvania: 68-00791
Ohio VAP: CL0065
Kentucky Certification #: 0042

Charlotte Certification IDs

North Carolina Wastewater Certification #: 12
Pennsylvania Certification #: 68-00784
South Carolina Certification #: 990060001
North Carolina Field Services Certification #: 5342
North Carolina Drinking Water Certification #: 37706
New Jersey Certification #: NC012
Louisiana/LELAP Certification #: 04034

Kentucky UST Certification #: 84
Florida/NELAP Certification #: E87627
Connecticut Certification #: PH-0104
South Carolina Drinking Water Cert. #: 990060003
West Virginia Certification #: 357
Virginia Certification #: 00213
Tennessee Certification #: 04010

Asheville Certification IDs

Connecticut Certification #: PH-0106
Florida/NELAP Certification #: E87648
Louisiana/LELAP Certification #: 03095
Massachusetts Certification #: M-NC030
New Jersey Certification #: NC011
North Carolina Bioassay Certification #: 9
West Virginia Certification #: 356

North Carolina Wastewater Certification #: 40
Pennsylvania Certification #: 68-03578
South Carolina Bioassay Certification #: 99030002
Virginia Certification #: 00072
Tennessee Certification #: 2980
South Carolina Certification #: 99030001
North Carolina Drinking Water Certification #: 37712

REPORT OF LABORATORY ANALYSIS

Page 2 of 34

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Pace Analytical Services, Inc.
2225 Riverside Dr.
Asheville, NC 28804
(828)254-7176

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

SAMPLE SUMMARY

Project: TOWN OF MARION WWTP 61024

Pace Project No.: 9249646

| Lab ID | Sample ID | Matrix | Date Collected | Date Received |
|------------|------------------|--------|----------------|----------------|
| 9249646001 | OUTFALL 001 GRAB | Water | 07/28/09 08:10 | 07/29/09 08:15 |
| 9249646002 | OUTFALL 001 COMP | Water | 07/28/09 08:30 | 07/29/09 08:15 |

REPORT OF LABORATORY ANALYSIS

Page 3 of 34

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SAMPLE ANALYTE COUNT

Project: TOWN OF MARION WWTP 61024
Pace Project No.: 9249646

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|------------|------------------|--------------|----------|-------------------|------------|
| 9249646001 | OUTFALL 001 GRAB | EPA 6010 | SHB | 11 | PASI-A |
| | | EPA 608 | JEM | 27 | PASI-C |
| | | EPA 624 | MCK | 35 | PASI-C |
| | | EPA 625 | BET | 58 | PASI-C |
| | | EPA 7470 | SAJ | 1 | PASI-A |
| | | EPA 8081 | JEM | 4 | PASI-C |
| | | EPA 8260 | MCK | 6 | PASI-C |
| | | EPA 8270 | BET | 8 | PASI-C |
| | | EPA 900.0m | RMD | 2 | PASI-PA |
| | | EPA 901.1m | TTF | 15 | PASI-PA |
| | | EPA 905.0 | MBT | 1 | PASI-PA |
| | | EPA 906.0 | JAL | 1 | PASI-PA |
| | | SM 4500-CN-E | DMN | 1 | PASI-A |
| | | EPA 120.1 | ILP | 1 | PASI-I |
| 9249646002 | OUTFALL 001 COMP | SM 4500-Cl-E | LEP | 1 | PASI-A |
| | | SM 4500-S F | DDM | 1 | PASI-I |
| | | SM 4500-S2-D | ILP | 1 | PASI-I |
| | | | | | |

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ANALYTICAL RESULTS

Project: TOWN OF MARION WWTP 61024
Pace Project No.: 9249646

Sample: **OUTFALL 001 GRAB** Lab ID: **9249646001** Collected: 07/28/09 08:10 Received: 07/29/09 08:15 Matrix: Water

| Parameters | Results | Units | Report | | | Prepared | Analyzed | CAS No. | Qual |
|--|-----------|-------|--------|-------|----|----------------|----------------|------------|------|
| | | | Limit | MDL | DF | | | | |
| 608 GCS Pesticides and PCBs Analytical Method: EPA 608 Preparation Method: EPA 3535 | | | | | | | | | |
| Aldrin | ND ug/L | | 0.050 | 0.050 | 1 | 08/04/09 11:00 | 08/11/09 10:27 | 309-00-2 | |
| alpha-BHC | ND ug/L | | 0.050 | 0.050 | 1 | 08/04/09 11:00 | 08/11/09 10:27 | 319-84-6 | |
| beta-BHC | ND ug/L | | 0.050 | 0.050 | 1 | 08/04/09 11:00 | 08/11/09 10:27 | 319-85-7 | |
| delta-BHC | ND ug/L | | 0.050 | 0.050 | 1 | 08/04/09 11:00 | 08/11/09 10:27 | 319-86-8 | |
| gamma-BHC (Lindane) | ND ug/L | | 0.050 | 0.050 | 1 | 08/04/09 11:00 | 08/11/09 10:27 | 58-89-9 | |
| Chlordane (Technical) | ND ug/L | | 0.50 | 0.50 | 1 | 08/04/09 11:00 | 08/11/09 10:27 | 57-74-9 | |
| 4,4'-DDD | ND ug/L | | 0.050 | 0.050 | 1 | 08/04/09 11:00 | 08/11/09 10:27 | 72-54-8 | |
| 4,4'-DDE | ND ug/L | | 0.050 | 0.050 | 1 | 08/04/09 11:00 | 08/11/09 10:27 | 72-55-9 | |
| 4,4'-DDT | ND ug/L | | 0.050 | 0.050 | 1 | 08/04/09 11:00 | 08/11/09 10:27 | 50-29-3 | |
| Dieldrin | ND ug/L | | 0.050 | 0.050 | 1 | 08/04/09 11:00 | 08/11/09 10:27 | 60-57-1 | |
| Endosulfan I | ND ug/L | | 0.050 | 0.050 | 1 | 08/04/09 11:00 | 08/11/09 10:27 | 959-98-8 | |
| Endosulfan II | ND ug/L | | 0.050 | 0.050 | 1 | 08/04/09 11:00 | 08/11/09 10:27 | 33213-65-9 | |
| Endosulfan sulfate | ND ug/L | | 0.050 | 0.050 | 1 | 08/04/09 11:00 | 08/11/09 10:27 | 1031-07-8 | |
| Endrin | ND ug/L | | 0.050 | 0.050 | 1 | 08/04/09 11:00 | 08/11/09 10:27 | 72-20-8 | |
| Endrin aldehyde | ND ug/L | | 0.050 | 0.050 | 1 | 08/04/09 11:00 | 08/11/09 10:27 | 7421-93-4 | |
| Heptachlor | ND ug/L | | 0.050 | 0.050 | 1 | 08/04/09 11:00 | 08/11/09 10:27 | 76-44-8 | |
| Heptachlor epoxide | ND ug/L | | 0.050 | 0.050 | 1 | 08/04/09 11:00 | 08/11/09 10:27 | 1024-57-3 | |
| PCB-1016 (Aroclor 1016) | ND ug/L | | 0.50 | 0.50 | 1 | 08/04/09 11:00 | 08/11/09 10:27 | 12674-11-2 | |
| PCB-1221 (Aroclor 1221) | ND ug/L | | 0.50 | 0.50 | 1 | 08/04/09 11:00 | 08/11/09 10:27 | 11104-28-2 | |
| PCB-1232 (Aroclor 1232) | ND ug/L | | 0.50 | 0.50 | 1 | 08/04/09 11:00 | 08/11/09 10:27 | 11141-16-5 | |
| PCB-1242 (Aroclor 1242) | ND ug/L | | 0.50 | 0.50 | 1 | 08/04/09 11:00 | 08/11/09 10:27 | 53469-21-9 | |
| PCB-1248 (Aroclor 1248) | ND ug/L | | 0.50 | 0.50 | 1 | 08/04/09 11:00 | 08/11/09 10:27 | 12672-29-6 | |
| PCB-1254 (Aroclor 1254) | ND ug/L | | 0.50 | 0.50 | 1 | 08/04/09 11:00 | 08/11/09 10:27 | 11097-69-1 | |
| PCB-1260 (Aroclor 1260) | ND ug/L | | 0.50 | 0.50 | 1 | 08/04/09 11:00 | 08/11/09 10:27 | 11096-82-5 | |
| Toxaphene | ND ug/L | | 0.50 | 0.50 | 1 | 08/04/09 11:00 | 08/11/09 10:27 | 8001-35-2 | |
| Tetrachloro-m-xylene (S) | 51 % | | 20-110 | | 1 | 08/04/09 11:00 | 08/11/09 10:27 | 877-09-8 | |
| Decachlorobiphenyl (S) | 65 % | | 20-138 | | 1 | 08/04/09 11:00 | 08/11/09 10:27 | 2051-24-3 | |
| 8081 Organochlorine Pesticides Analytical Method: EPA 8081 Preparation Method: EPA 3535 | | | | | | | | | |
| Methoxychlor | ND ug/L | | 0.50 | 0.50 | 1 | 08/04/09 12:30 | 08/07/09 05:27 | 72-43-5 | |
| Mirex | ND ug/L | | 0.50 | 0.50 | 1 | 08/04/09 12:30 | 08/07/09 05:27 | 2385-85-5 | |
| Tetrachloro-m-xylene (S) | 36 % | | 20-110 | | 1 | 08/04/09 12:30 | 08/07/09 05:27 | 877-09-8 | |
| Decachlorobiphenyl (S) | 32 % | | 20-138 | | 1 | 08/04/09 12:30 | 08/07/09 05:27 | 2051-24-3 | |
| 6010 MET ICP, Dissolved Analytical Method: EPA 6010 Preparation Method: EPA 3010 | | | | | | | | | |
| Antimony, Dissolved | ND ug/L | | 5.0 | 2.6 | 1 | 07/30/09 14:30 | 08/01/09 19:49 | 7440-36-0 | |
| Arsenic, Dissolved | ND ug/L | | 5.0 | 2.7 | 1 | 07/30/09 14:30 | 08/01/09 19:49 | 7440-38-2 | |
| Cadmium, Dissolved | ND ug/L | | 1.0 | 0.50 | 1 | 07/30/09 14:30 | 08/01/09 19:49 | 7440-43-9 | |
| Chromium, Dissolved | ND ug/L | | 5.0 | 0.40 | 1 | 07/30/09 14:30 | 08/01/09 19:49 | 7440-47-3 | |
| Copper, Dissolved | ND ug/L | | 5.0 | 0.30 | 1 | 07/30/09 14:30 | 08/01/09 19:49 | 7440-50-8 | |
| Lead, Dissolved | ND ug/L | | 5.0 | 4.0 | 1 | 07/30/09 14:30 | 08/01/09 19:49 | 7439-92-1 | |
| Nickel, Dissolved | ND ug/L | | 5.0 | 1.7 | 1 | 07/30/09 14:30 | 08/01/09 19:49 | 7440-02-0 | |
| Selenium, Dissolved | ND ug/L | | 10.0 | 3.8 | 1 | 07/30/09 14:30 | 08/01/09 19:49 | 7782-49-2 | |
| Silver, Dissolved | ND ug/L | | 5.0 | 0.10 | 1 | 07/30/09 14:30 | 08/01/09 19:49 | 7440-22-4 | |
| Thallium, Dissolved | ND ug/L | | 10.0 | 3.0 | 1 | 07/30/09 14:30 | 08/01/09 19:49 | 7440-28-0 | |
| Zinc, Dissolved | 30.8 ug/L | | 10.0 | 0.40 | 1 | 07/30/09 14:30 | 08/03/09 12:58 | 7440-66-6 | |

Date: 08/14/2009 11:36 AM

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ANALYTICAL RESULTS

Project: TOWN OF MARION WWTP 61024

Pace Project No.: 9249646

Sample: **OUTFALL 001 GRAB** Lab ID: **9249646001** Collected: 07/28/09 08:10 Received: 07/29/09 08:15 Matrix: Water

| Parameters | Results | Units | Report Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|--|---------|-------|--------------|-------|----|----------------|----------------|-----------|------|
| 7470 Mercury, Lab Filtered Analytical Method: EPA 7470 Preparation Method: EPA 7470 | | | | | | | | | |
| Mercury, Dissolved | ND | ug/L | 0.20 | 0.090 | 1 | 07/31/09 11:03 | 08/05/09 10:57 | 7439-97-6 | |
| 625 MSSV Analytical Method: EPA 625 Preparation Method: EPA 625 | | | | | | | | | |
| Acenaphthene | ND | ug/L | 5.4 | 3.0 | 1 | 08/04/09 13:00 | 08/08/09 09:21 | 83-32-9 | |
| Acenaphthylene | ND | ug/L | 5.4 | 3.0 | 1 | 08/04/09 13:00 | 08/08/09 09:21 | 208-96-8 | |
| Anthracene | ND | ug/L | 5.4 | 3.1 | 1 | 08/04/09 13:00 | 08/08/09 09:21 | 120-12-7 | |
| Benzo(a)anthracene | ND | ug/L | 5.4 | 3.0 | 1 | 08/04/09 13:00 | 08/08/09 09:21 | 56-55-3 | |
| Benzo(a)pyrene | ND | ug/L | 5.4 | 3.3 | 1 | 08/04/09 13:00 | 08/08/09 09:21 | 50-32-8 | |
| Benzo(b)fluoranthene | ND | ug/L | 5.4 | 3.9 | 1 | 08/04/09 13:00 | 08/08/09 09:21 | 205-99-2 | |
| Benzo(g,h,i)perylene | ND | ug/L | 5.4 | 3.3 | 1 | 08/04/09 13:00 | 08/08/09 09:21 | 191-24-2 | |
| Benzo(k)fluoranthene | ND | ug/L | 5.4 | 3.2 | 1 | 08/04/09 13:00 | 08/08/09 09:21 | 207-08-9 | |
| 4-Bromophenylphenyl ether | ND | ug/L | 5.4 | 2.6 | 1 | 08/04/09 13:00 | 08/08/09 09:21 | 101-55-3 | |
| Butylbenzylphthalate | ND | ug/L | 5.4 | 3.1 | 1 | 08/04/09 13:00 | 08/08/09 09:21 | 85-68-7 | |
| 4-Chloro-3-methylphenol | ND | ug/L | 5.4 | 3.0 | 1 | 08/04/09 13:00 | 08/08/09 09:21 | 59-50-7 | |
| bis(2-Chloroethoxy)methane | ND | ug/L | 10.8 | 6.2 | 1 | 08/04/09 13:00 | 08/08/09 09:21 | 111-91-1 | |
| bis(2-Chloroethyl) ether | ND | ug/L | 5.4 | 5.2 | 1 | 08/04/09 13:00 | 08/08/09 09:21 | 111-44-4 | |
| bis(2-Chloroisopropyl) ether | ND | ug/L | 5.4 | 4.3 | 1 | 08/04/09 13:00 | 08/08/09 09:21 | 108-60-1 | |
| 2-Chloronaphthalene | ND | ug/L | 5.4 | 3.9 | 1 | 08/04/09 13:00 | 08/08/09 09:21 | 91-58-7 | |
| 2-Chlorophenol | ND | ug/L | 5.4 | 4.7 | 1 | 08/04/09 13:00 | 08/08/09 09:21 | 95-57-8 | |
| 4-Chlorophenylphenyl ether | ND | ug/L | 5.4 | 2.9 | 1 | 08/04/09 13:00 | 08/08/09 09:21 | 7005-72-3 | |
| Chrysene | ND | ug/L | 5.4 | 2.9 | 1 | 08/04/09 13:00 | 08/08/09 09:21 | 218-01-9 | |
| Dibenz(a,h)anthracene | ND | ug/L | 5.4 | 3.1 | 1 | 08/04/09 13:00 | 08/08/09 09:21 | 53-70-3 | |
| 3,3'-Dichlorobenzidine | ND | ug/L | 5.4 | 3.7 | 1 | 08/04/09 13:00 | 08/08/09 09:21 | 91-94-1 | |
| 2,4-Dichlorophenol | ND | ug/L | 5.4 | 4.4 | 1 | 08/04/09 13:00 | 08/08/09 09:21 | 120-83-2 | |
| Diethylphthalate | ND | ug/L | 5.4 | 2.9 | 1 | 08/04/09 13:00 | 08/08/09 09:21 | 84-66-2 | |
| 2,4-Dimethylphenol | ND | ug/L | 10.8 | 6.0 | 1 | 08/04/09 13:00 | 08/08/09 09:21 | 105-67-9 | |
| Dimethylphthalate | ND | ug/L | 5.4 | 2.6 | 1 | 08/04/09 13:00 | 08/08/09 09:21 | 131-11-3 | |
| Di-n-butylphthalate | ND | ug/L | 5.4 | 3.1 | 1 | 08/04/09 13:00 | 08/08/09 09:21 | 84-74-2 | |
| 4,6-Dinitro-2-methylphenol | ND | ug/L | 21.5 | 8.4 | 1 | 08/04/09 13:00 | 08/08/09 09:21 | 534-52-1 | |
| 2,4-Dinitrophenol | ND | ug/L | 53.8 | 10.8 | 1 | 08/04/09 13:00 | 08/08/09 09:21 | 51-28-5 | |
| 2,4-Dinitrotoluene | ND | ug/L | 5.4 | 2.8 | 1 | 08/04/09 13:00 | 08/08/09 09:21 | 121-14-2 | |
| 2,6-Dinitrotoluene | ND | ug/L | 5.4 | 3.0 | 1 | 08/04/09 13:00 | 08/08/09 09:21 | 606-20-2 | |
| Di-n-octylphthalate | ND | ug/L | 5.4 | 3.1 | 1 | 08/04/09 13:00 | 08/08/09 09:21 | 117-84-0 | |
| bis(2-Ethylhexyl)phthalate | ND | ug/L | 5.4 | 2.3 | 1 | 08/04/09 13:00 | 08/08/09 09:21 | 117-81-7 | |
| Fluoranthene | ND | ug/L | 5.4 | 3.1 | 1 | 08/04/09 13:00 | 08/08/09 09:21 | 206-44-0 | |
| Fluorene | ND | ug/L | 5.4 | 2.8 | 1 | 08/04/09 13:00 | 08/08/09 09:21 | 86-73-7 | |
| Hexachloro-1,3-butadiene | ND | ug/L | 5.4 | 3.5 | 1 | 08/04/09 13:00 | 08/08/09 09:21 | 87-68-3 | |
| Hexachlorobenzene | ND | ug/L | 5.4 | 2.8 | 1 | 08/04/09 13:00 | 08/08/09 09:21 | 118-74-1 | |
| Hexachlorocyclopentadiene | ND | ug/L | 10.8 | 4.0 | 1 | 08/04/09 13:00 | 08/08/09 09:21 | 77-47-4 | |
| Hexachloroethane | ND | ug/L | 5.4 | 3.5 | 1 | 08/04/09 13:00 | 08/08/09 09:21 | 67-72-1 | |
| Indeno(1,2,3-cd)pyrene | ND | ug/L | 5.4 | 3.2 | 1 | 08/04/09 13:00 | 08/08/09 09:21 | 193-39-5 | |
| Isophorone | ND | ug/L | 10.8 | 7.0 | 1 | 08/04/09 13:00 | 08/08/09 09:21 | 78-59-1 | |
| Naphthalene | ND | ug/L | 5.4 | 4.1 | 1 | 08/04/09 13:00 | 08/08/09 09:21 | 91-20-3 | |
| Nitrobenzene | ND | ug/L | 5.4 | 4.7 | 1 | 08/04/09 13:00 | 08/08/09 09:21 | 98-95-3 | |
| 2-Nitrophenol | ND | ug/L | 5.4 | 4.9 | 1 | 08/04/09 13:00 | 08/08/09 09:21 | 88-75-5 | |
| 4-Nitrophenol | ND | ug/L | 53.8 | 2.2 | 1 | 08/04/09 13:00 | 08/08/09 09:21 | 100-02-7 | |

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ANALYTICAL RESULTS

Project: TOWN OF MARION WWTP 61024
Pace Project No.: 9249646

Sample: **OUTFALL 001 GRAB** Lab ID: **9249646001** Collected: 07/28/09 08:10 Received: 07/29/09 08:15 Matrix: Water

| Parameters | Results | Units | Report Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|--|---------|-------|--------------|------|----|----------------|----------------|------------|------|
| 625 MSSV Analytical Method: EPA 625 Preparation Method: EPA 625 | | | | | | | | | |
| N-Nitrosodimethylamine | ND | ug/L | 5.4 | 3.3 | 1 | 08/04/09 13:00 | 08/08/09 09:21 | 62-75-9 | |
| N-Nitroso-di-n-propylamine | ND | ug/L | 5.4 | 4.0 | 1 | 08/04/09 13:00 | 08/08/09 09:21 | 621-64-7 | |
| N-Nitrosodiphenylamine | ND | ug/L | 10.8 | 7.1 | 1 | 08/04/09 13:00 | 08/08/09 09:21 | 86-30-6 | |
| Pentachlorophenol | ND | ug/L | 26.9 | 1.7 | 1 | 08/04/09 13:00 | 08/08/09 09:21 | 87-86-5 | |
| Phenanthrene | ND | ug/L | 5.4 | 2.9 | 1 | 08/04/09 13:00 | 08/08/09 09:21 | 85-01-8 | |
| Phenol | ND | ug/L | 5.4 | 1.9 | 1 | 08/04/09 13:00 | 08/08/09 09:21 | 108-95-2 | |
| Pyrene | ND | ug/L | 5.4 | 3.1 | 1 | 08/04/09 13:00 | 08/08/09 09:21 | 129-00-0 | |
| 1,2,4-Trichlorobenzene | ND | ug/L | 5.4 | 3.7 | 1 | 08/04/09 13:00 | 08/08/09 09:21 | 120-82-1 | |
| 2,4,6-Trichlorophenol | ND | ug/L | 10.8 | 6.6 | 1 | 08/04/09 13:00 | 08/08/09 09:21 | 88-06-2 | |
| Nitrobenzene-d5 (S) | 50 | % | 10-120 | | 1 | 08/04/09 13:00 | 08/08/09 09:21 | 4165-60-0 | |
| 2-Fluorobiphenyl (S) | 51 | % | 15-120 | | 1 | 08/04/09 13:00 | 08/08/09 09:21 | 321-60-8 | |
| Terphenyl-d14 (S) | 52 | % | 11-131 | | 1 | 08/04/09 13:00 | 08/08/09 09:21 | 1718-51-0 | |
| Phenol-d6 (S) | 22 | % | 10-120 | | 1 | 08/04/09 13:00 | 08/08/09 09:21 | 13127-88-3 | |
| 2-Fluorophenol (S) | 28 | % | 10-120 | | 1 | 08/04/09 13:00 | 08/08/09 09:21 | 367-12-4 | |
| 2,4,6-Tribromophenol (S) | 28 | % | 10-137 | | 1 | 08/04/09 13:00 | 08/08/09 09:21 | 118-79-6 | |
| 8270 MSSV Semivolatile Organic Analytical Method: EPA 8270 Preparation Method: EPA 3510 | | | | | | | | | |
| 1,2-Diphenylhydrazine | ND | ug/L | 10.6 | 2.3 | 1 | 08/04/09 13:00 | 08/07/09 22:11 | 122-66-7 | |
| Kepon | ND | ug/L | 53.2 | 9.3 | 1 | 08/04/09 13:00 | 08/07/09 22:11 | 143-50-0 | |
| Nitrobenzene-d5 (S) | 56 | % | 30-150 | | 1 | 08/04/09 13:00 | 08/07/09 22:11 | 4165-60-0 | |
| 2-Fluorobiphenyl (S) | 53 | % | 30-150 | | 1 | 08/04/09 13:00 | 08/07/09 22:11 | 321-60-8 | |
| Terphenyl-d14 (S) | 56 | % | 30-150 | | 1 | 08/04/09 13:00 | 08/07/09 22:11 | 1718-51-0 | |
| Phenol-d6 (S) | 25 | % | 25-150 | | 1 | 08/04/09 13:00 | 08/07/09 22:11 | 13127-88-3 | |
| 2-Fluorophenol (S) | 25 | % | 25-150 | | 1 | 08/04/09 13:00 | 08/07/09 22:11 | 367-12-4 | |
| 2,4,6-Tribromophenol (S) | 34 | % | 25-150 | | 1 | 08/04/09 13:00 | 08/07/09 22:11 | 118-79-6 | |
| 624 Volatile Organics Analytical Method: EPA 624 | | | | | | | | | |
| Benzene | ND | ug/L | 5.0 | 1.2 | 1 | | 08/09/09 10:37 | 71-43-2 | |
| Bromodichloromethane | ND | ug/L | 5.0 | 2.3 | 1 | | 08/09/09 10:37 | 75-27-4 | |
| Bromoform | ND | ug/L | 5.0 | 3.3 | 1 | | 08/09/09 10:37 | 75-25-2 | |
| Bromomethane | ND | ug/L | 10.0 | 7.2 | 1 | | 08/09/09 10:37 | 74-83-9 | |
| Carbon tetrachloride | ND | ug/L | 5.0 | 2.7 | 1 | | 08/09/09 10:37 | 56-23-5 | |
| Chlorobenzene | ND | ug/L | 5.0 | 1.0 | 1 | | 08/09/09 10:37 | 108-90-7 | |
| Chloroethane | ND | ug/L | 10.0 | 6.5 | 1 | | 08/09/09 10:37 | 75-00-3 | |
| Chloroform | ND | ug/L | 5.0 | 2.0 | 1 | | 08/09/09 10:37 | 67-66-3 | |
| Chloromethane | ND | ug/L | 5.0 | 1.8 | 1 | | 08/09/09 10:37 | 74-87-3 | |
| Dibromochloromethane | ND | ug/L | 5.0 | 1.5 | 1 | | 08/09/09 10:37 | 124-48-1 | |
| 1,2-Dichlorobenzene | ND | ug/L | 5.0 | 1.4 | 1 | | 08/09/09 10:37 | 95-50-1 | |
| 1,3-Dichlorobenzene | ND | ug/L | 5.0 | 0.93 | 1 | | 08/09/09 10:37 | 541-73-1 | |
| 1,4-Dichlorobenzene | ND | ug/L | 5.0 | 1.2 | 1 | | 08/09/09 10:37 | 106-46-7 | |
| 1,1-Dichloroethane | ND | ug/L | 5.0 | 2.4 | 1 | | 08/09/09 10:37 | 75-34-3 | |
| 1,2-Dichloroethane | ND | ug/L | 5.0 | 1.3 | 1 | | 08/09/09 10:37 | 107-06-2 | |
| 1,1-Dichloroethene | ND | ug/L | 5.0 | 3.4 | 1 | | 08/09/09 10:37 | 75-35-4 | |
| cis-1,2-Dichloroethene | ND | ug/L | 5.0 | 4.4 | 1 | | 08/09/09 10:37 | 156-59-2 | |
| trans-1,2-Dichloroethene | ND | ug/L | 5.0 | 4.4 | 1 | | 08/09/09 10:37 | 156-60-5 | |
| 1,2-Dichloropropane | ND | ug/L | 5.0 | 2.1 | 1 | | 08/09/09 10:37 | 78-87-5 | |

Date: 08/14/2009 11:36 AM

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ANALYTICAL RESULTS

Project: TOWN OF MARION WWTP 61024

Pace Project No.: 9249646

Sample: **OUTFALL 001 GRAB** Lab ID: **9249646001** Collected: 07/28/09 08:10 Received: 07/29/09 08:15 Matrix: Water

| Parameters | Results | Units | Report Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---------|-------|-----------------|--------|----|----------|----------------|------------|-------|
| 624 Volatile Organics Analytical Method: EPA 624 | | | | | | | | | |
| cis-1,3-Dichloropropene | ND | ug/L | 5.0 | 1.7 | 1 | | 08/09/09 10:37 | 10061-01-5 | |
| trans-1,3-Dichloropropene | ND | ug/L | 5.0 | 1.8 | 1 | | 08/09/09 10:37 | 10061-02-6 | |
| Ethylbenzene | ND | ug/L | 5.0 | 1.1 | 1 | | 08/09/09 10:37 | 100-41-4 | |
| Methylene Chloride | ND | ug/L | 5.0 | 1.9 | 1 | | 08/09/09 10:37 | 75-09-2 | |
| 1,1,2,2-Tetrachloroethane | ND | ug/L | 5.0 | 3.3 | 1 | | 08/09/09 10:37 | 79-34-5 | |
| Tetrachloroethene | ND | ug/L | 5.0 | 1.9 | 1 | | 08/09/09 10:37 | 127-18-4 | |
| Toluene | ND | ug/L | 5.0 | 1.8 | 1 | | 08/09/09 10:37 | 108-88-3 | |
| 1,1,1-Trichloroethane | ND | ug/L | 5.0 | 1.6 | 1 | | 08/09/09 10:37 | 71-55-6 | |
| 1,1,2-Trichloroethane | ND | ug/L | 5.0 | 3.2 | 1 | | 08/09/09 10:37 | 79-00-5 | |
| Trichloroethene | ND | ug/L | 5.0 | 1.0 | 1 | | 08/09/09 10:37 | 79-01-6 | |
| Trichlorofluoromethane | ND | ug/L | 10.0 | 5.1 | 1 | | 08/09/09 10:37 | 75-69-4 | |
| Vinyl chloride | ND | ug/L | 5.0 | 1.9 | 1 | | 08/09/09 10:37 | 75-01-4 | |
| Dibromofluoromethane (S) | 101 | % | 88-113 | | 1 | | 08/09/09 10:37 | 1868-53-7 | |
| 4-Bromofluorobenzene (S) | 98 | % | 86-111 | | 1 | | 08/09/09 10:37 | 460-00-4 | |
| Toluene-d8 (S) | 103 | % | 92-105 | | 1 | | 08/09/09 10:37 | 2037-26-5 | |
| 1,2-Dichloroethane-d4 (S) | 101 | % | 70-130 | | 1 | | 08/09/09 10:37 | 17060-07-0 | |
| 8260 MSV Low Level Analytical Method: EPA 8260 | | | | | | | | | |
| m&p-Xylene | ND | ug/L | 2.0 | 0.66 | 1 | | 08/12/09 09:10 | 1330-20-7 | H1,HS |
| o-Xylene | ND | ug/L | 1.0 | 0.23 | 1 | | 08/12/09 09:10 | 95-47-6 | |
| 4-Bromofluorobenzene (S) | 101 | % | 87-109 | | 1 | | 08/12/09 09:10 | 460-00-4 | |
| Dibromofluoromethane (S) | 101 | % | 85-115 | | 1 | | 08/12/09 09:10 | 1868-53-7 | |
| 1,2-Dichloroethane-d4 (S) | 96 | % | 79-120 | | 1 | | 08/12/09 09:10 | 17060-07-0 | |
| Toluene-d8 (S) | 100 | % | 70-120 | | 1 | | 08/12/09 09:10 | 2037-26-5 | |
| 4500CNE Cyanide, Total Analytical Method: SM 4500-CN-E | | | | | | | | | |
| Cyanide | ND | mg/L | 0.0050 | 0.0050 | 1 | | 08/12/09 10:39 | 57-12-5 | H1 |

ANALYTICAL RESULTS

Project: TOWN OF MARION WWTP 61024
Pace Project No.: 9249646

| Sample: OUTFALL 001 COMP | | Lab ID: 9249646002 | | Collected: 07/28/09 08:30 | | Received: 07/29/09 08:15 | | Matrix: Water | |
|-----------------------------------|---------|---------------------------------|--------------|---------------------------|----|--------------------------|----------------|---------------|------|
| Parameters | Results | Units | Report Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
| 120.1 Specific Conductance | | Analytical Method: EPA 120.1 | | | | | | | |
| Specific Conductance | 367 | umhos/cm | 1.0 | | 1 | | 08/07/09 09:19 | | |
| 4500S2D Sulfide Water | | Analytical Method: SM 4500-S2-D | | | | | | | |
| Sulfide | ND | mg/L | 0.10 | 0.0071 | 1 | | 07/31/09 13:32 | | |
| SM4500S-F Hydrogen Sulfide | | Analytical Method: SM 4500-S F | | | | | | | |
| Hydrogen Sulfide | ND | mg/L | 0.10 | 0.050 | 1 | | 07/31/09 14:04 | 7783-06-4 | |
| 4500 Chloride | | Analytical Method: SM 4500-Cl-E | | | | | | | |
| Chloride | 39.4 | mg/L | 5.0 | 5.0 | 1 | | 08/12/09 12:12 | 16887-00-6 | M0 |

QUALITY CONTROL DATA

Project: TOWN OF MARION WWTP 61024
Pace Project No.: 9249646

QC Batch: OEXT7593 Analysis Method: EPA 625
QC Batch Method: EPA 625 Analysis Description: 625 MSS
Associated Lab Samples: 9249646001

METHOD BLANK: 317404 Matrix: Water
Associated Lab Samples: 9249646001

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|------------------------------|-------|--------------|-----------------|----------------|------------|
| 1,2,4-Trichlorobenzene | ug/L | ND | 5.0 | 08/07/09 20:05 | |
| 2,4,6-Trichlorophenol | ug/L | ND | 10.0 | 08/07/09 20:05 | |
| 2,4-Dichlorophenol | ug/L | ND | 5.0 | 08/07/09 20:05 | |
| 2,4-Dimethylphenol | ug/L | ND | 10.0 | 08/07/09 20:05 | |
| 2,4-Dinitrophenol | ug/L | ND | 50.0 | 08/07/09 20:05 | |
| 2,4-Dinitrotoluene | ug/L | ND | 5.0 | 08/07/09 20:05 | |
| 2,6-Dinitrotoluene | ug/L | ND | 5.0 | 08/07/09 20:05 | |
| 2-Chloronaphthalene | ug/L | ND | 5.0 | 08/07/09 20:05 | |
| 2-Chlorophenol | ug/L | ND | 5.0 | 08/07/09 20:05 | |
| 2-Nitrophenol | ug/L | ND | 5.0 | 08/07/09 20:05 | |
| 3,3'-Dichlorobenzidine | ug/L | ND | 5.0 | 08/07/09 20:05 | |
| 4,6-Dinitro-2-methylphenol | ug/L | ND | 20.0 | 08/07/09 20:05 | |
| 4-Bromophenylphenyl ether | ug/L | ND | 5.0 | 08/07/09 20:05 | |
| 4-Chloro-3-methylphenol | ug/L | ND | 5.0 | 08/07/09 20:05 | |
| 4-Chlorophenylphenyl ether | ug/L | ND | 5.0 | 08/07/09 20:05 | |
| 4-Nitrophenol | ug/L | ND | 50.0 | 08/07/09 20:05 | |
| Acenaphthene | ug/L | ND | 5.0 | 08/07/09 20:05 | |
| Acenaphthylene | ug/L | ND | 5.0 | 08/07/09 20:05 | |
| Anthracene | ug/L | ND | 5.0 | 08/07/09 20:05 | |
| Benzo(a)anthracene | ug/L | ND | 5.0 | 08/07/09 20:05 | |
| Benzo(a)pyrene | ug/L | ND | 5.0 | 08/07/09 20:05 | |
| Benzo(b)fluoranthene | ug/L | ND | 5.0 | 08/07/09 20:05 | |
| Benzo(g,h,i)perylene | ug/L | ND | 5.0 | 08/07/09 20:05 | |
| Benzo(k)fluoranthene | ug/L | ND | 5.0 | 08/07/09 20:05 | |
| bis(2-Chloroethoxy)methane | ug/L | ND | 10.0 | 08/07/09 20:05 | |
| bis(2-Chloroethyl) ether | ug/L | ND | 5.0 | 08/07/09 20:05 | |
| bis(2-Chloroisopropyl) ether | ug/L | ND | 5.0 | 08/07/09 20:05 | |
| bis(2-Ethylhexyl)phthalate | ug/L | ND | 5.0 | 08/07/09 20:05 | |
| Butylbenzylphthalate | ug/L | ND | 5.0 | 08/07/09 20:05 | |
| Chrysene | ug/L | ND | 5.0 | 08/07/09 20:05 | |
| Di-n-butylphthalate | ug/L | ND | 5.0 | 08/07/09 20:05 | |
| Di-n-octylphthalate | ug/L | ND | 5.0 | 08/07/09 20:05 | |
| Dibenz(a,h)anthracene | ug/L | ND | 5.0 | 08/07/09 20:05 | |
| Diethylphthalate | ug/L | ND | 5.0 | 08/07/09 20:05 | |
| Dimethylphthalate | ug/L | ND | 5.0 | 08/07/09 20:05 | |
| Fluoranthene | ug/L | ND | 5.0 | 08/07/09 20:05 | |
| Fluorene | ug/L | ND | 5.0 | 08/07/09 20:05 | |
| Hexachloro-1,3-butadiene | ug/L | ND | 5.0 | 08/07/09 20:05 | |
| Hexachlorobenzene | ug/L | ND | 5.0 | 08/07/09 20:05 | |
| Hexachlorocyclopentadiene | ug/L | ND | 10.0 | 08/07/09 20:05 | |
| Hexachloroethane | ug/L | ND | 5.0 | 08/07/09 20:05 | |
| Indeno(1,2,3-cd)pyrene | ug/L | ND | 5.0 | 08/07/09 20:05 | |
| Isophorone | ug/L | ND | 10.0 | 08/07/09 20:05 | |

Date: 08/14/2009 11:36 AM

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QUALITY CONTROL DATA

Project: TOWN OF MARION WWTP 61024

Pace Project No.: 9249646

METHOD BLANK: 317404

Matrix: Water

Associated Lab Samples: 9249646001

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|----------------------------|-------|--------------|-----------------|----------------|------------|
| N-Nitroso-di-n-propylamine | ug/L | ND | 5.0 | 08/07/09 20:05 | |
| N-Nitrosodimethylamine | ug/L | ND | 5.0 | 08/07/09 20:05 | |
| N-Nitrosodiphenylamine | ug/L | ND | 10.0 | 08/07/09 20:05 | |
| Naphthalene | ug/L | ND | 5.0 | 08/07/09 20:05 | |
| Nitrobenzene | ug/L | ND | 5.0 | 08/07/09 20:05 | |
| Pentachlorophenol | ug/L | ND | 25.0 | 08/07/09 20:05 | |
| Phenanthrene | ug/L | ND | 5.0 | 08/07/09 20:05 | |
| Phenol | ug/L | ND | 5.0 | 08/07/09 20:05 | |
| Pyrene | ug/L | ND | 5.0 | 08/07/09 20:05 | |
| 2,4,6-Tribromophenol (S) | % | 35 | 10-137 | 08/07/09 20:05 | |
| 2-Fluorobiphenyl (S) | % | 56 | 15-120 | 08/07/09 20:05 | |
| 2-Fluorophenol (S) | % | 26 | 10-120 | 08/07/09 20:05 | |
| Nitrobenzene-d5 (S) | % | 56 | 10-120 | 08/07/09 20:05 | |
| Phenol-d6 (S) | % | 24 | 10-120 | 08/07/09 20:05 | |
| Terphenyl-d14 (S) | % | 52 | 11-131 | 08/07/09 20:05 | |

LABORATORY CONTROL SAMPLE: 317405

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|----------------------------|-------|-------------|------------|-----------|--------------|------------|
| 1,2,4-Trichlorobenzene | ug/L | 50 | 28.8 | 58 | 44-142 | |
| 2,4,6-Trichlorophenol | ug/L | 50 | 26.8 | 54 | 37-144 | |
| 2,4-Dichlorophenol | ug/L | 50 | 26.2 | 52 | 1-191 | |
| 2,4-Dimethylphenol | ug/L | 50 | 26.3 | 53 | 32-119 | |
| 2,4-Dinitrophenol | ug/L | 50 | 29.1 | 58 | 1-181 | |
| 2,4-Dinitrotoluene | ug/L | 50 | 25.4 | 51 | 39-139 | |
| 2,6-Dinitrotoluene | ug/L | 50 | 25.1 | 50 | 50-158 | |
| 2-Chloronaphthalene | ug/L | 50 | 30.6 | 61 | 60-118 | |
| 2-Chlorophenol | ug/L | 50 | 25.0 | 50 | 23-134 | |
| 2-Nitrophenol | ug/L | 50 | 26.6 | 53 | 29-182 | |
| 3,3'-Dichlorobenzidine | ug/L | 50 | 45.1 | 90 | 1-262 | |
| 4,6-Dinitro-2-methylphenol | ug/L | 50 | 26.1 | 52 | 1-181 | |
| 4-Bromophenylphenyl ether | ug/L | 50 | 29.0 | 58 | 53-127 | |
| 4-Chloro-3-methylphenol | ug/L | 50 | 29.4 | 59 | 22-147 | |
| 4-Chlorophenylphenyl ether | ug/L | 50 | 30.1 | 60 | 25-158 | |
| 4-Nitrophenol | ug/L | 50 | 39.6 | 79 | 1-132 | |
| Acenaphthene | ug/L | 50 | 25.1 | 50 | 47-145 | |
| Acenaphthylene | ug/L | 50 | 20.7 | 41 | 33-145 | |
| Anthracene | ug/L | 50 | 26.6 | 53 | 1-166 | |
| Benzo(a)anthracene | ug/L | 50 | 49.4 | 99 | 33-143 | |
| Benzo(a)pyrene | ug/L | 50 | 29.6 | 59 | 17-163 | |
| Benzo(b)fluoranthene | ug/L | 50 | 44.1 | 88 | 24-159 | |
| Benzo(g,h,i)perylene | ug/L | 50 | 30.7 | 61 | 1-219 | |
| Benzo(k)fluoranthene | ug/L | 50 | 44.6 | 89 | 11-162 | |
| bis(2-Chloroethoxy)methane | ug/L | 50 | 29.8 | 60 | 33-184 | |
| bis(2-Chloroethyl) ether | ug/L | 50 | 29.0 | 58 | 12-158 | |

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QUALITY CONTROL DATA

Project: TOWN OF MARION WWTP 61024

Pace Project No.: 9249646

LABORATORY CONTROL SAMPLE: 317405

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|------------------------------|-------|-------------|------------|-----------|--------------|------------|
| bis(2-Chloroisopropyl) ether | ug/L | 50 | 27.1 | 54 | 36-166 | |
| bis(2-Ethylhexyl)phthalate | ug/L | 50 | 30.3 | 61 | 8-158 | |
| Butylbenzylphthalate | ug/L | 50 | 30.2 | 60 | 1-152 | |
| Chrysene | ug/L | 50 | 27.4 | 55 | 17-168 | |
| Di-n-butylphthalate | ug/L | 50 | 30.5 | 61 | 1-118 | |
| Di-n-octylphthalate | ug/L | 50 | 30.2 | 60 | 4-146 | |
| Dibenz(a,h)anthracene | ug/L | 50 | 29.4 | 59 | 1-227 | |
| Diethylphthalate | ug/L | 50 | 28.7 | 57 | 1-114 | |
| Dimethylphthalate | ug/L | 50 | 27.5 | 55 | 1-112 | |
| Fluoranthene | ug/L | 50 | 27.3 | 55 | 26-137 | |
| Fluorene | ug/L | 50 | 30.1 | 60 | 59-121 | |
| Hexachloro-1,3-butadiene | ug/L | 50 | 27.8 | 56 | 24-116 | |
| Hexachlorobenzene | ug/L | 50 | 24.1 | 48 | 1-152 | |
| Hexachlorocyclopentadiene | ug/L | 50 | 29.7 | 59 | 25-150 | |
| Hexachloroethane | ug/L | 50 | 23.9 | 48 | 40-113 | |
| Indeno(1,2,3-cd)pyrene | ug/L | 50 | 29.4 | 59 | 1-171 | |
| Isophorone | ug/L | 50 | 26.1 | 52 | 21-196 | |
| N-Nitroso-di-n-propylamine | ug/L | 50 | 32.4 | 65 | 1-230 | |
| N-Nitrosodimethylamine | ug/L | 50 | 28.9 | 58 | 25-150 | |
| N-Nitrosodiphenylamine | ug/L | 50 | 25.2 | 50 | 25-150 | |
| Naphthalene | ug/L | 50 | 32.9 | 66 | 21-133 | |
| Nitrobenzene | ug/L | 50 | 24.9 | 50 | 35-180 | |
| Pentachlorophenol | ug/L | 50 | 12.5J | 25 | 14-176 | |
| Phenanthrene | ug/L | 50 | 28.1 | 56 | 54-120 | |
| Phenol | ug/L | 50 | 9.5 | 19 | 5-112 | |
| Pyrene | ug/L | 50 | 26.1 | 52 | 52-115 | |
| 2,4,6-Tribromophenol (S) | % | | | 35 | 10-137 | |
| 2-Fluorobiphenyl (S) | % | | | 53 | 15-120 | |
| 2-Fluorophenol (S) | % | | | 29 | 10-120 | |
| Nitrobenzene-d5 (S) | % | | | 94 | 10-120 | |
| Phenol-d6 (S) | % | | | 26 | 10-120 | |
| Terphenyl-d14 (S) | % | | | 51 | 11-131 | |

QUALITY CONTROL DATA

Project: TOWN OF MARION WWTP 61024

Pace Project No.: 9249646

QC Batch: MPRP/4837

Analysis Method: EPA 6010

QC Batch Method: EPA 3010

Analysis Description: 6010 MET Filtered

Associated Lab Samples: 9249646001

METHOD BLANK: 315549

Matrix: Water

Associated Lab Samples: 9249646001

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---------------------|-------|--------------|-----------------|----------------|------------|
| Antimony, Dissolved | ug/L | ND | 5.0 | 08/01/09 19:07 | |
| Arsenic, Dissolved | ug/L | ND | 5.0 | 08/01/09 19:07 | |
| Cadmium, Dissolved | ug/L | ND | 1.0 | 08/01/09 19:07 | |
| Chromium, Dissolved | ug/L | ND | 5.0 | 08/01/09 19:07 | |
| Copper, Dissolved | ug/L | ND | 5.0 | 08/01/09 19:07 | |
| Lead, Dissolved | ug/L | ND | 5.0 | 08/01/09 19:07 | |
| Nickel, Dissolved | ug/L | ND | 5.0 | 08/01/09 19:07 | |
| Selenium, Dissolved | ug/L | ND | 10.0 | 08/01/09 19:07 | |
| Silver, Dissolved | ug/L | ND | 5.0 | 08/01/09 19:07 | |
| Thallium, Dissolved | ug/L | ND | 10.0 | 08/01/09 19:07 | |
| Zinc, Dissolved | ug/L | ND | 10.0 | 08/03/09 12:54 | |

LABORATORY CONTROL SAMPLE: 315550

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---------------------|-------|-------------|------------|-----------|--------------|------------|
| Antimony, Dissolved | ug/L | 500 | 468 | 94 | 80-120 | |
| Arsenic, Dissolved | ug/L | 500 | 459 | 92 | 80-120 | |
| Cadmium, Dissolved | ug/L | 500 | 465 | 93 | 80-120 | |
| Chromium, Dissolved | ug/L | 500 | 462 | 92 | 80-120 | |
| Copper, Dissolved | ug/L | 500 | 464 | 93 | 80-120 | |
| Lead, Dissolved | ug/L | 500 | 467 | 93 | 80-120 | |
| Nickel, Dissolved | ug/L | 500 | 459 | 92 | 80-120 | |
| Selenium, Dissolved | ug/L | 500 | 462 | 92 | 80-120 | |
| Silver, Dissolved | ug/L | 250 | 242 | 97 | 80-120 | |
| Thallium, Dissolved | ug/L | 500 | 429 | 86 | 80-120 | |
| Zinc, Dissolved | ug/L | 500 | 456 | 91 | 80-120 | |

MATRIX SPIKE SAMPLE: 315551

| Parameter | Units | 9249132001 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|---------------------|-------|-------------------|-------------|-----------|----------|--------------|------------|
| Antimony, Dissolved | ug/L | <0.0026 mg/L | 500 | 502 | 100 | 75-125 | |
| Arsenic, Dissolved | ug/L | 0.011 mg/L | 500 | 552 | 108 | 75-125 | |
| Cadmium, Dissolved | ug/L | <0.00050 mg/L | 500 | 449 | 90 | 75-125 | |
| Chromium, Dissolved | ug/L | 0.0012J mg/L | 500 | 455 | 91 | 75-125 | |
| Copper, Dissolved | ug/L | <0.00030 mg/L | 500 | 479 | 96 | 75-125 | |
| Lead, Dissolved | ug/L | <0.0040 mg/L | 500 | 410 | 82 | 75-125 | |
| Nickel, Dissolved | ug/L | <0.0017 mg/L | 500 | 420 | 84 | 75-125 | |
| Selenium, Dissolved | ug/L | 0.0040J mg/L | 500 | 599 | 119 | 75-125 | |
| Silver, Dissolved | ug/L | <0.00010 mg/L | 250 | 265 | 106 | 75-125 | |
| Thallium, Dissolved | ug/L | <0.0030 mg/L | 500 | 353 | 70 | 75-125 M0 | |

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QUALITY CONTROL DATA

Project: TOWN OF MARION WWTP 61024
Pace Project No.: 9249646

| MATRIX SPIKE SAMPLE: | | 315551 | | | | | |
|----------------------|-------|----------------------|----------------|--------------|-------------|-----------------|------------|
| Parameter | Units | 9249132001 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
| Zinc, Dissolved | ug/L | <0.00040 mg/L | 500 | 519 | 104 | 75-125 | |

SAMPLE DUPLICATE: 315552

| Parameter | Units | 9249379001 Result | Dup Result | RPD | Max RPD | Qualifiers |
|---------------------|-------|----------------------|---------------|-----|------------|------------|
| Antimony, Dissolved | ug/L | <0.0026 mg/L | ND | | 20 | |
| Arsenic, Dissolved | ug/L | 0.011 mg/L | 11.0 | 0 | 20 | |
| Cadmium, Dissolved | ug/L | <0.00050 mg/L | ND | | 20 | |
| Chromium, Dissolved | ug/L | 0.0012J mg/L | 1.2J | | 20 | |
| Copper, Dissolved | ug/L | <0.00030 mg/L | ND | | 20 | |
| Lead, Dissolved | ug/L | <0.0040 mg/L | ND | | 20 | |
| Nickel, Dissolved | ug/L | <0.0017 mg/L | ND | | 20 | |
| Selenium, Dissolved | ug/L | <0.0038 mg/L | ND | | 20 | |
| Silver, Dissolved | ug/L | <0.00010 mg/L | ND | | 20 | |
| Thallium, Dissolved | ug/L | 0.0040J mg/L | ND | | 20 | |
| Zinc, Dissolved | ug/L | <0.00040 mg/L | ND | | 20 | |

QUALITY CONTROL DATA

Project: TOWN OF MARION WWTP 61024
Pace Project No.: 9249646

QC Batch: OEXT/7589 Analysis Method: EPA 608
QC Batch Method: EPA 3535 Analysis Description: 608 GCS Pest PCB
Associated Lab Samples: 9249646001

METHOD BLANK: 317351 Matrix: Water

Associated Lab Samples: 9249646001

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|--------------------------|-------|--------------|-----------------|----------------|------------|
| 4,4'-DDD | ug/L | ND | 0.050 | 08/07/09 00:19 | |
| 4,4'-DDE | ug/L | ND | 0.050 | 08/07/09 00:19 | |
| 4,4'-DDT | ug/L | ND | 0.050 | 08/07/09 00:19 | |
| Aldrin | ug/L | ND | 0.050 | 08/07/09 00:19 | |
| alpha-BHC | ug/L | ND | 0.050 | 08/07/09 00:19 | |
| beta-BHC | ug/L | ND | 0.050 | 08/07/09 00:19 | |
| Chlordane (Technical) | ug/L | ND | 0.50 | 08/07/09 00:19 | |
| delta-BHC | ug/L | ND | 0.050 | 08/07/09 00:19 | |
| Dieldrin | ug/L | ND | 0.050 | 08/07/09 00:19 | |
| Endosulfan I | ug/L | ND | 0.050 | 08/07/09 00:19 | |
| Endosulfan II | ug/L | ND | 0.050 | 08/07/09 00:19 | |
| Endosulfan sulfate | ug/L | ND | 0.050 | 08/07/09 00:19 | |
| Endrin | ug/L | ND | 0.050 | 08/07/09 00:19 | |
| Endrin aldehyde | ug/L | ND | 0.050 | 08/07/09 00:19 | |
| gamma-BHC (Lindane) | ug/L | ND | 0.050 | 08/07/09 00:19 | |
| Heptachlor | ug/L | ND | 0.050 | 08/07/09 00:19 | |
| Heptachlor epoxide | ug/L | ND | 0.050 | 08/07/09 00:19 | |
| PCB-1016 (Aroclor 1016) | ug/L | ND | 0.50 | 08/07/09 00:19 | |
| PCB-1221 (Aroclor 1221) | ug/L | ND | 0.50 | 08/07/09 00:19 | |
| PCB-1232 (Aroclor 1232) | ug/L | ND | 0.50 | 08/07/09 00:19 | |
| PCB-1242 (Aroclor 1242) | ug/L | ND | 0.50 | 08/07/09 00:19 | |
| PCB-1248 (Aroclor 1248) | ug/L | ND | 0.50 | 08/07/09 00:19 | |
| PCB-1254 (Aroclor 1254) | ug/L | ND | 0.50 | 08/07/09 00:19 | |
| PCB-1260 (Aroclor 1260) | ug/L | ND | 0.50 | 08/07/09 00:19 | |
| Toxaphene | ug/L | ND | 0.50 | 08/07/09 00:19 | |
| Decachlorobiphenyl (S) | % | 119 | 20-138 | 08/07/09 00:19 | |
| Tetrachloro-m-xylene (S) | % | 71 | 20-110 | 08/07/09 00:19 | |

LABORATORY CONTROL SAMPLE: 317352

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---------------|-------|-------------|------------|-----------|--------------|------------|
| 4,4'-DDD | ug/L | .08 | 0.078 | 98 | 31-141 | |
| 4,4'-DDE | ug/L | .08 | 0.086 | 108 | 30-145 | |
| 4,4'-DDT | ug/L | .08 | 0.084 | 105 | 25-160 | |
| Aldrin | ug/L | .08 | 0.084 | 105 | 42-122 | |
| alpha-BHC | ug/L | .08 | 0.070 | 88 | 37-134 | |
| beta-BHC | ug/L | .08 | 0.084 | 104 | 17-147 | |
| delta-BHC | ug/L | .08 | 0.086 | 107 | 19-140 | |
| Dieldrin | ug/L | .08 | 0.084 | 105 | 36-146 | |
| Endosulfan I | ug/L | .08 | 0.080 | 100 | 45-153 | |
| Endosulfan II | ug/L | .08 | 0.088 | 110 | 1-202 | |

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QUALITY CONTROL DATA

Project: TOWN OF MARION WWTP 61024
Pace Project No.: 9249646

LABORATORY CONTROL SAMPLE: 317352

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|--------------------------|-------|-------------|------------|-----------|--------------|------------|
| Endosulfan sulfate | ug/L | .08 | 0.064 | 79 | 26-144 | |
| Endrin | ug/L | .08 | 0.088 | 109 | 30-147 | |
| Endrin aldehyde | ug/L | .08 | 0.092 | 116 | 50-150 | |
| gamma-BHC (Lindane) | ug/L | .08 | 0.073 | 91 | 32-127 | |
| Heptachlor | ug/L | .08 | 0.085 | 106 | 34-111 | |
| Heptachlor epoxide | ug/L | .08 | 0.098 | 122 | 41-126 | |
| Decachlorobiphenyl (S) | % | | | 110 | 20-138 | |
| Tetrachloro-m-xylene (S) | % | | | 95 | 20-110 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 317353 317354

| Parameter | Units | 9249646001 | | MS | | MSD | | MS | | MSD | | % Rec | | Max | |
|--------------------------|-------|------------|-------|-------------|-------|--------|-------|--------|-------|--------|-------|--------|-----|-----|------|
| | | Result | Conc. | Spike Conc. | Conc. | Result | Conc. | Result | Conc. | Result | Conc. | Limits | RPD | RPD | Qual |
| 4,4'-DDT | ug/L | ND | .16 | .16 | .16 | 0.17 | 0.14 | 104 | 88 | 25-160 | 17 | 30 | | | |
| Aldrin | ug/L | ND | .16 | .16 | .16 | ND | ND | 60 | 55 | 42-122 | | 30 | | | |
| Dieldrin | ug/L | ND | .16 | .16 | .16 | 0.12 | ND | 74 | 46 | 36-146 | | 30 | | | |
| Endrin | ug/L | ND | .16 | .16 | .16 | 0.10 | 0.12 | 63 | 78 | 30-147 | 21 | 30 | | | |
| gamma-BHC (Lindane) | ug/L | ND | .16 | .16 | .16 | ND | ND | 59 | 57 | 32-127 | | 30 | | | |
| Heptachlor | ug/L | ND | .16 | .16 | .16 | ND | 0.13 | 53 | 80 | 34-111 | | 30 | | | |
| Decachlorobiphenyl (S) | % | | | | | | | 45 | 32 | 20-138 | | | | | |
| Tetrachloro-m-xylene (S) | % | | | | | | | 82 | 61 | 20-110 | | | | | |

QUALITY CONTROL DATA

Project: TOWN OF MARION WWTP 61024

Pace Project No.: 9249646

QC Batch: MSV/7908

Analysis Method: EPA 624

QC Batch Method: EPA 624

Analysis Description: 624 MSV

Associated Lab Samples: 9249646001

METHOD BLANK: 319908

Matrix: Water

Associated Lab Samples: 9249646001

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---------------------------|-------|--------------|-----------------|----------------|------------|
| 1,1,1-Trichloroethane | ug/L | ND | 5.0 | 08/09/09 09:03 | |
| 1,1,2,2-Tetrachloroethane | ug/L | ND | 5.0 | 08/09/09 09:03 | |
| 1,1,2-Trichloroethane | ug/L | ND | 5.0 | 08/09/09 09:03 | |
| 1,1-Dichloroethane | ug/L | ND | 5.0 | 08/09/09 09:03 | |
| 1,1-Dichloroethene | ug/L | ND | 5.0 | 08/09/09 09:03 | |
| 1,2-Dichlorobenzene | ug/L | ND | 5.0 | 08/09/09 09:03 | |
| 1,2-Dichloroethane | ug/L | ND | 5.0 | 08/09/09 09:03 | |
| 1,2-Dichloropropane | ug/L | ND | 5.0 | 08/09/09 09:03 | |
| 1,3-Dichlorobenzene | ug/L | ND | 5.0 | 08/09/09 09:03 | |
| 1,4-Dichlorobenzene | ug/L | ND | 5.0 | 08/09/09 09:03 | |
| Benzene | ug/L | ND | 5.0 | 08/09/09 09:03 | |
| Bromodichloromethane | ug/L | ND | 5.0 | 08/09/09 09:03 | |
| Bromoform | ug/L | ND | 5.0 | 08/09/09 09:03 | |
| Bromomethane | ug/L | ND | 10.0 | 08/09/09 09:03 | |
| Carbon tetrachloride | ug/L | ND | 5.0 | 08/09/09 09:03 | |
| Chlorobenzene | ug/L | ND | 5.0 | 08/09/09 09:03 | |
| Chloroethane | ug/L | ND | 10.0 | 08/09/09 09:03 | |
| Chloroform | ug/L | ND | 5.0 | 08/09/09 09:03 | |
| Chloromethane | ug/L | ND | 5.0 | 08/09/09 09:03 | |
| cis-1,2-Dichloroethene | ug/L | ND | 5.0 | 08/09/09 09:03 | |
| cis-1,3-Dichloropropene | ug/L | ND | 5.0 | 08/09/09 09:03 | |
| Dibromochloromethane | ug/L | ND | 5.0 | 08/09/09 09:03 | |
| Ethylbenzene | ug/L | ND | 5.0 | 08/09/09 09:03 | |
| Methylene Chloride | ug/L | 5.2 | 5.0 | 08/09/09 09:03 | C9 |
| Tetrachloroethene | ug/L | ND | 5.0 | 08/09/09 09:03 | |
| Toluene | ug/L | ND | 5.0 | 08/09/09 09:03 | |
| trans-1,2-Dichloroethene | ug/L | ND | 5.0 | 08/09/09 09:03 | |
| trans-1,3-Dichloropropene | ug/L | ND | 5.0 | 08/09/09 09:03 | |
| Trichloroethene | ug/L | ND | 5.0 | 08/09/09 09:03 | |
| Trichlorofluoromethane | ug/L | ND | 10.0 | 08/09/09 09:03 | |
| Vinyl chloride | ug/L | ND | 5.0 | 08/09/09 09:03 | |
| 1,2-Dichloroethane-d4 (S) | % | 99 | 70-130 | 08/09/09 09:03 | |
| 4-Bromofluorobenzene (S) | % | 97 | 86-111 | 08/09/09 09:03 | |
| Dibromofluoromethane (S) | % | 100 | 88-113 | 08/09/09 09:03 | |
| Toluene-d8 (S) | % | 105 | 92-105 | 08/09/09 09:03 | |

LABORATORY CONTROL SAMPLE: 319909

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---------------------------|-------|-------------|------------|-----------|--------------|------------|
| 1,1,1-Trichloroethane | ug/L | 20 | 21.4 | 107 | 52-162 | |
| 1,1,2,2-Tetrachloroethane | ug/L | 20 | 23.8 | 119 | 46-157 | |

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: TOWN OF MARION WWTP 61024
Pace Project No.: 9249646

LABORATORY CONTROL SAMPLE: 319909

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---------------------------|-------|-------------|------------|-----------|--------------|------------|
| 1,1,2-Trichloroethane | ug/L | 20 | 21.9 | 110 | 52-150 | |
| 1,1-Dichloroethane | ug/L | 20 | 21.8 | 109 | 59-155 | |
| 1,1-Dichloroethene | ug/L | 20 | 25.0 | 125 | 1-234 | |
| 1,2-Dichlorobenzene | ug/L | 20 | 21.1 | 105 | 18-190 | |
| 1,2-Dichloroethane | ug/L | 20 | 21.6 | 108 | 49-155 | |
| 1,2-Dichloropropane | ug/L | 20 | 22.6 | 113 | 1-210 | |
| 1,3-Dichlorobenzene | ug/L | 20 | 21.1 | 106 | 59-156 | |
| 1,4-Dichlorobenzene | ug/L | 20 | 20.7 | 104 | 18-190 | |
| Benzene | ug/L | 20 | 20.9 | 104 | 37-151 | |
| Bromodichloromethane | ug/L | 20 | 19.9 | 100 | 35-155 | |
| Bromoform | ug/L | 20 | 19.4 | 97 | 45-169 | |
| Bromomethane | ug/L | 20 | 23.1 | 116 | 1-242 | |
| Carbon tetrachloride | ug/L | 20 | 22.4 | 112 | 70-140 | |
| Chlorobenzene | ug/L | 20 | 20.9 | 105 | 37-160 | |
| Chloroethane | ug/L | 20 | 22.0 | 110 | 14-230 | |
| Chloroform | ug/L | 20 | 20.1 | 101 | 51-138 | |
| Chloromethane | ug/L | 20 | 22.4 | 112 | 1-273 | |
| cis-1,2-Dichloroethene | ug/L | 20 | 23.1 | 115 | 68-146 | |
| cis-1,3-Dichloropropene | ug/L | 20 | 22.7 | 114 | 1-227 | |
| Dibromochloromethane | ug/L | 20 | 19.8 | 99 | 53-149 | |
| Ethylbenzene | ug/L | 20 | 21.5 | 108 | 37-162 | |
| Methylene Chloride | ug/L | 20 | 25.6 | 128 | 1-221 | |
| Tetrachloroethene | ug/L | 20 | 22.2 | 111 | 64-148 | |
| Toluene | ug/L | 20 | 21.3 | 107 | 47-150 | |
| trans-1,2-Dichloroethene | ug/L | 20 | 21.7 | 108 | 54-156 | |
| trans-1,3-Dichloropropene | ug/L | 20 | 22.7 | 114 | 17-183 | |
| Trichloroethene | ug/L | 20 | 20.8 | 104 | 71-157 | |
| Trichlorofluoromethane | ug/L | 20 | 24.9 | 124 | 17-181 | |
| Vinyl chloride | ug/L | 20 | 20.8 | 104 | 1-251 | |
| 1,2-Dichloroethane-d4 (S) | % | | | 94 | 70-130 | |
| 4-Bromofluorobenzene (S) | % | | | 101 | 86-111 | |
| Dibromofluoromethane (S) | % | | | 99 | 88-113 | |
| Toluene-d8 (S) | % | | | 101 | 92-105 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 319920

319921

| Parameter | Units | 9249570001 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|---------------------------|-------|-------------------|----------------|-----------------|-----------|------------|----------|-----------|--------------|-----|---------|------|
| 1,1,1-Trichloroethane | ug/L | ND | 20 | 20 | 24.6 | 25.1 | 123 | 126 | 46-171 | 2 | 30 | |
| 1,1,2,2-Tetrachloroethane | ug/L | ND | 20 | 20 | 25.7 | 25.4 | 129 | 127 | 73-159 | 1 | 30 | |
| 1,1,2-Trichloroethane | ug/L | ND | 20 | 20 | 24.3 | 24.4 | 121 | 122 | 64-152 | 7 | 30 | |
| 1,1-Dichloroethane | ug/L | ND | 20 | 20 | 24.1 | 24.8 | 120 | 124 | 43-172 | 3 | 30 | |
| 1,1-Dichloroethene | ug/L | ND | 20 | 20 | 28.8 | 29.6 | 144 | 148 | 48-189 | 3 | 30 | |
| 1,2-Dichlorobenzene | ug/L | ND | 20 | 20 | 23.7 | 23.2 | 118 | 116 | 54-154 | 2 | 30 | |
| 1,2-Dichloroethane | ug/L | ND | 20 | 20 | 23.9 | 23.7 | 120 | 118 | 42-171 | 1 | 30 | |
| 1,2-Dichloropropane | ug/L | ND | 20 | 20 | 25.1 | 25.4 | 125 | 127 | 55-157 | 1 | 30 | |
| 1,3-Dichlorobenzene | ug/L | ND | 20 | 20 | 23.3 | 23.2 | 116 | 116 | 57-148 | 5 | 30 | |

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QUALITY CONTROL DATA

Project: TOWN OF MARION WWTP 61024

Pace Project No.: 9249646

| MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 319920 319921 | | | | | | | | | | | | |
|--|-------|----------------------|----------------------|-----------------------|--------------|---------------|-------------|--------------|-----------------|------------|-----|------|
| Parameter | Units | 9249570001 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | Max RPD | RPD | Qual |
| 1,4-Dichlorobenzene | ug/L | ND | 20 | 20 | 22.6 | 22.6 | 113 | 113 | 58-149 | .006 | 30 | |
| Benzene | ug/L | ND | 20 | 20 | 23.8 | 24.0 | 119 | 120 | 54-163 | .6 | 30 | |
| Bromodichloromethane | ug/L | ND | 20 | 20 | 22.5 | 22.3 | 113 | 112 | 56-152 | .9 | 30 | |
| Bromoform | ug/L | ND | 20 | 20 | 21.1 | 21.4 | 106 | 107 | 53-151 | 1 | 30 | |
| Bromomethane | ug/L | ND | 20 | 20 | 30.5 | 36.1 | 152 | 180 | 10-200 | 17 | 30 | |
| Carbon tetrachloride | ug/L | ND | 20 | 20 | 26.4 | 26.5 | 132 | 133 | 41-175 | .5 | 30 | |
| Chlorobenzene | ug/L | ND | 20 | 20 | 23.4 | 23.0 | 117 | 115 | 67-152 | 2 | 30 | |
| Chloroethane | ug/L | ND | 20 | 20 | 25.4 | 25.3 | 127 | 127 | 23-200 | .1 | 30 | |
| Chloroform | ug/L | ND | 20 | 20 | 23.7 | 23.7 | 119 | 118 | 51-166 | .3 | 30 | |
| Chloromethane | ug/L | ND | 20 | 20 | 23.2 | 23.1 | 116 | 116 | 40-175 | .2 | 30 | |
| cis-1,2-Dichloroethene | ug/L | ND | 20 | 20 | 25.4 | 24.9 | 127 | 124 | 45-174 | 2 | 30 | |
| cis-1,3-Dichloropropene | ug/L | ND | 20 | 20 | 25.1 | 25.4 | 125 | 127 | 38-146 | 1 | 30 | |
| Dibromochloromethane | ug/L | ND | 20 | 20 | 21.8 | 21.7 | 109 | 109 | 65-144 | .5 | 30 | |
| Ethylbenzene | ug/L | ND | 20 | 20 | 24.3 | 24.0 | 122 | 120 | 57-152 | 1 | 30 | |
| Methylene Chloride | ug/L | ND | 20 | 20 | 26.2 | 25.9 | 125 | 124 | 40-167 | 1 | 30 | |
| Tetrachloroethene | ug/L | ND | 20 | 20 | 25.1 | 24.7 | 125 | 123 | 59-155 | 2 | 30 | |
| Toluene | ug/L | ND | 20 | 20 | 24.8 | 24.9 | 124 | 125 | 47-162 | .6 | 30 | |
| trans-1,2-Dichloroethene | ug/L | ND | 20 | 20 | 24.7 | 25.9 | 124 | 129 | 47-178 | 5 | 30 | |
| trans-1,3-Dichloropropene | ug/L | ND | 20 | 20 | 24.7 | 25.4 | 123 | 127 | 39-148 | 3 | 30 | |
| Trichloroethene | ug/L | ND | 20 | 20 | 23.9 | 24.4 | 120 | 122 | 60-153 | 2 | 30 | |
| Trichlorofluoromethane | ug/L | ND | 20 | 20 | 29.1 | 30.3 | 145 | 151 | 42-199 | 4 | 30 | |
| Vinyl chloride | ug/L | ND | 20 | 20 | 25.4 | 25.4 | 127 | 127 | 46-176 | .1 | 30 | |
| 1,2-Dichloroethane-d4 (S) | % | | | | | | 95 | 96 | 70-130 | | | |
| 4-Bromofluorobenzene (S) | % | | | | | | 101 | 100 | 86-111 | | | |
| Dibromofluoromethane (S) | % | | | | | | 100 | 100 | 88-113 | | | |
| Toluene-d8 (S) | % | | | | | | 104 | 104 | 92-105 | | | |

QUALITY CONTROL DATA

Project: TOWN OF MARION WWTP 61024
Pace Project No.: 9249646

QC Batch: MERP/2300 Analysis Method: EPA 7470
QC Batch Method: EPA 7470 Analysis Description: 7470 Mercury Dissolved
Associated Lab Samples: 9249646001

METHOD BLANK: 315060 Matrix: Water
Associated Lab Samples: 9249646001

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|--------------------|-------|--------------|-----------------|----------------|------------|
| Mercury, Dissolved | ug/L | ND | 0.20 | 08/05/09 10:42 | |

LABORATORY CONTROL SAMPLE: 315061

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|--------------------|-------|-------------|------------|-----------|--------------|------------|
| Mercury, Dissolved | ug/L | 2.5 | 2.9 | 117 | 80-120 | |

MATRIX SPIKE SAMPLE: 315062

| Parameter | Units | 9249640006 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|--------------------|-------|-------------------|-------------|-----------|----------|--------------|------------|
| Mercury, Dissolved | ug/L | ND | 2.5 | 2.4 | 96 | 75-125 | |

SAMPLE DUPLICATE: 315063

| Parameter | Units | 9249640008 Result | Dup Result | RPD | Max RPD | Qualifiers |
|--------------------|-------|-------------------|------------|-----|---------|------------|
| Mercury, Dissolved | ug/L | ND | ND | | 25 | |

QUALITY CONTROL DATA

Project: TOWN OF MARION WWTP 61024

Pace Project No.: 9249646

QC Batch: OEXT/7596

Analysis Method: EPA 8270

QC Batch Method: EPA 3510

Analysis Description: 8270 Water MSSV

Associated Lab Samples: 9249646001

METHOD BLANK: 317430

Matrix: Water

Associated Lab Samples: 9249646001

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|--------------------------|-------|--------------|-----------------|----------------|------------|
| 1,2-Diphenylhydrazine | ug/L | ND | 10.0 | 08/07/09 20:05 | |
| Kepone | ug/L | ND | 50.0 | 08/07/09 20:05 | |
| 2,4,6-Tribromophenol (S) | % | 35 | 25-150 | 08/07/09 20:05 | |
| 2-Fluorobiphenyl (S) | % | 56 | 30-150 | 08/07/09 20:05 | |
| 2-Fluorophenol (S) | % | 26 | 25-150 | 08/07/09 20:05 | |
| Nitrobenzene-d5 (S) | % | 56 | 30-150 | 08/07/09 20:05 | |
| Phenol-d6 (S) | % | 24 | 25-150 | 08/07/09 20:05 | 1g |
| Terphenyl-d14 (S) | % | 52 | 30-150 | 08/07/09 20:05 | |

LABORATORY CONTROL SAMPLE: 317431

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|--------------------------|-------|-------------|------------|-----------|--------------|------------|
| 1,2-Diphenylhydrazine | ug/L | 50 | 30.7 | 61 | 50-150 | |
| Kepone | ug/L | | 31.1J | | | |
| 2,4,6-Tribromophenol (S) | % | | | 37 | 25-150 | |
| 2-Fluorobiphenyl (S) | % | | | 53 | 30-150 | |
| 2-Fluorophenol (S) | % | | | 29 | 25-150 | |
| Nitrobenzene-d5 (S) | % | | | 94 | 30-150 | |
| Phenol-d6 (S) | % | | | 26 | 25-150 | |
| Terphenyl-d14 (S) | % | | | 51 | 30-150 | |

QUALITY CONTROL DATA

Project: TOWN OF MARION WWTP 61024
Pace Project No.: 9249646

QC Batch: OEXT/7590 Analysis Method: EPA 8081
QC Batch Method: EPA 3535 Analysis Description: 8081A GCS Pesticides
Associated Lab Samples: 9249646001

METHOD BLANK: 317355 Matrix: Water
Associated Lab Samples: 9249646001

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|--------------------------|-------|--------------|-----------------|----------------|------------|
| Methoxychlor | ug/L | ND | 0.50 | 08/07/09 00:19 | |
| Mirex | ug/L | ND | 0.50 | 08/07/09 00:19 | |
| Decachlorobiphenyl (S) | % | 119 | 20-138 | 08/07/09 00:19 | |
| Tetrachloro-m-xylene (S) | % | 71 | 20-110 | 08/07/09 00:19 | |

LABORATORY CONTROL SAMPLE: 317356

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|--------------------------|-------|-------------|------------|-----------|--------------|------------|
| Methoxychlor | ug/L | .28 | ND | 114 | 44-150 | |
| Mirex | ug/L | .2 | ND | 89 | 20-121 | |
| Decachlorobiphenyl (S) | % | | | 110 | 20-138 | |
| Tetrachloro-m-xylene (S) | % | | | 95 | 20-110 | |

QUALITY CONTROL DATA

Project: TOWN OF MARION WWTP 61024
Pace Project No.: 9249646

QC Batch: WETA/5635 Analysis Method: SM 4500-CN-E
QC Batch Method: SM 4500-CN-E Analysis Description: 4500CNE Cyanide, Total
Associated Lab Samples: 9249646001

METHOD BLANK: 320249 Matrix: Water
Associated Lab Samples: 9249646001

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|-----------|-------|--------------|-----------------|----------------|------------|
| Cyanide | mg/L | ND | 0.0050 | 08/12/09 10:32 | |

LABORATORY CONTROL SAMPLE: 320250

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|-------------|------------|-----------|--------------|------------|
| Cyanide | mg/L | .1 | 0.097 | 97 | 80-120 | |

MATRIX SPIKE SAMPLE: 320251

| Parameter | Units | 9250031002 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|-------------------|-------------|-----------|----------|--------------|------------|
| Cyanide | mg/L | ND | .1 | 0.092 | 91 | 75-125 | |

SAMPLE DUPLICATE: 320252

| Parameter | Units | 9250031004 Result | Dup Result | RPD | Max RPD | Qualifiers |
|-----------|-------|-------------------|------------|-----|---------|------------|
| Cyanide | mg/L | 0.0062 | 0.0070 | 12 | 20 | |

QUALITY CONTROL DATA

Project: TOWN OF MARION WWTP 61024

Pace Project No.: 9249646

| | | | |
|-------------------------|--------------|-----------------------|-----------------------|
| QC Batch: | WET/4908 | Analysis Method: | SM 4500-S2-D |
| QC Batch Method: | SM 4500-S2-D | Analysis Description: | 4500S2D Sulfide Water |
| Associated Lab Samples: | 9249646002 | | |

METHOD BLANK: 328096 Matrix: Water

Associated Lab Samples: 9249646002

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|-----------|-------|--------------|-----------------|----------------|------------|
| Sulfide | mg/L | ND | 0.10 | 07/31/09 13:32 | |

LABORATORY CONTROL SAMPLE: 328097

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|-------------|------------|-----------|--------------|------------|
| Sulfide | mg/L | .5 | 0.52 | 104 | 90-110 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 328098 328099

| Parameter | Units | 6063503001 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | Max RPD | Qual |
|-----------|-------|-------------------|----------------|-----------------|-----------|------------|----------|-----------|--------------|---------|------|
| Sulfide | mg/L | ND | .5 | .5 | 0.33 | 0.35 | 65 | 70 | 75-125 | 7 20 | M3 |

QUALITY CONTROL DATA

Project: TOWN OF MARION WWTP 61024
Pace Project No.: 9249646

QC Batch: WET/4921 Analysis Method: EPA 120.1
QC Batch Method: EPA 120.1 Analysis Description: 120.1 Specific Conductance
Associated Lab Samples: 9249646002

METHOD BLANK: 329639 Matrix: Water
Associated Lab Samples: 9249646002

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|----------------------|----------|--------------|-----------------|----------------|------------|
| Specific Conductance | umhos/cm | ND | 1.0 | 08/07/09 09:19 | |

LABORATORY CONTROL SAMPLE: 329640

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|----------------------|----------|-------------|------------|-----------|--------------|------------|
| Specific Conductance | umhos/cm | 1410 | 1290 | 92 | 90-110 | |

SAMPLE DUPLICATE: 329641

| Parameter | Units | 9249646002 Result | Dup Result | RPD | Max RPD | Qualifiers |
|----------------------|----------|-------------------|------------|-----|---------|------------|
| Specific Conductance | umhos/cm | 367 | 372 | 1 | 20 | |



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QUALITY CONTROL DATA

Project: TOWN OF MARION WWTP 61024
Pace Project No.: 9249646

QC Batch: WETA/5642 Analysis Method: SM 4500-Cl-E
QC Batch Method: SM 4500-Cl-E Analysis Description: 4500 Chloride
Associated Lab Samples: 9249646002

METHOD BLANK: 320975 Matrix: Water
Associated Lab Samples: 9249646002

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|-----------|-------|--------------|-----------------|----------------|------------|
| Chloride | mg/L | ND | 5.0 | 08/12/09 12:12 | |

LABORATORY CONTROL SAMPLE: 320976

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|-------------|------------|-----------|--------------|------------|
| Chloride | mg/L | 20 | 20.9 | 104 | 90-110 | |

MATRIX SPIKE SAMPLE: 320977

| Parameter | Units | 9249646002 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|-------------------|-------------|-----------|----------|--------------|------------|
| Chloride | mg/L | 39.4 | 20 | 50.4 | 55 | 75-125 | M0 |

MATRIX SPIKE SAMPLE: 320980

| Parameter | Units | 9250451001 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|-------------------|-------------|-----------|----------|--------------|------------|
| Chloride | mg/L | 13.3 | 20 | 32.0 | 93 | 75-125 | |

SAMPLE DUPLICATE: 320979

| Parameter | Units | 9250181002 Result | Dup Result | RPD | Max RPD | Qualifiers |
|-----------|-------|-------------------|------------|-----|---------|------------|
| Chloride | mg/L | 5.6 | 5.6 | .6 | 20 | |

SAMPLE DUPLICATE: 320981

| Parameter | Units | 9250451002 Result | Dup Result | RPD | Max RPD | Qualifiers |
|-----------|-------|-------------------|------------|-----|---------|------------|
| Chloride | mg/L | 39.3 | 39.9 | 2 | 20 | |

QUALITY CONTROL DATA

Project: TOWN OF MARION WWTP 61024
Pace Project No.: 9249646

QC Batch: MSV/7941 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV Low Level
Associated Lab Samples: 9249646001

METHOD BLANK: 320962 Matrix: Water
Associated Lab Samples: 9249646001

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---------------------------|-------|--------------|-----------------|----------------|------------|
| m&p-Xylene | ug/L | ND | 2.0 | 08/12/09 08:51 | |
| o-Xylene | ug/L | ND | 1.0 | 08/12/09 08:51 | |
| 1,2-Dichloroethane-d4 (S) | % | 95 | 79-120 | 08/12/09 08:51 | |
| 4-Bromofluorobenzene (S) | % | 102 | 87-109 | 08/12/09 08:51 | |
| Dibromofluoromethane (S) | % | 100 | 85-115 | 08/12/09 08:51 | |
| Toluene-d8 (S) | % | 99 | 70-120 | 08/12/09 08:51 | |

LABORATORY CONTROL SAMPLE: 320963

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---------------------------|-------|-------------|------------|-----------|--------------|------------|
| m&p-Xylene | ug/L | 100 | 93.8 | 94 | 82-127 | |
| o-Xylene | ug/L | 50 | 55.2 | 110 | 83-124 | |
| 1,2-Dichloroethane-d4 (S) | % | | | 91 | 79-120 | |
| 4-Bromofluorobenzene (S) | % | | | 101 | 87-109 | |
| Dibromofluoromethane (S) | % | | | 99 | 85-115 | |
| Toluene-d8 (S) | % | | | 100 | 70-120 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 320964 320965

| Parameter | Units | 9250426008 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | Max RPD | Qual |
|---------------------------|-------|-------------------|----------------|-----------------|-----------|------------|----------|-----------|--------------|---------|------|
| 1,2-Dichloroethane-d4 (S) | % | | | | | | 93 | 98 | 79-120 | | |
| 4-Bromofluorobenzene (S) | % | | | | | | 96 | 97 | 87-109 | | |
| Dibromofluoromethane (S) | % | | | | | | 99 | 100 | 85-115 | | |
| Toluene-d8 (S) | % | | | | | | 99 | 100 | 70-120 | | |

ANALYTICAL RESULTS

Project: TOWN OF MARION WWTP 61024

Pace Project No.: 9249646

Sample: **OUTFALL 001 GRAB** Lab ID: **9249646001** Collected: 07/28/09 08:10 Received: 07/29/09 08:15 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) | Units | Analyzed | CAS No. | Qual |
|---------------|------------|-----------------------|-------|----------------|------------|------|
| Gross Alpha | EPA 900.0m | 0.262 ± 0.638 (1.17) | pCi/L | 08/05/09 17:48 | 12587-46-1 | |
| Gross Beta | EPA 900.0m | 6.02 ± 1.23 (0.627) | pCi/L | 08/05/09 17:48 | 12587-47-2 | |
| Actinium-228 | EPA 901.1m | 6.98 ± 5.89 (2.73) | pCi/L | 08/04/09 11:55 | 14331-83-0 | |
| Americium-241 | EPA 901.1m | 19.2 ± 37.2 (18.6) | pCi/L | 08/04/09 11:55 | 86954-36-1 | |
| Bismuth-212 | EPA 901.1m | 6.91 ± 14.0 (7.03) | pCi/L | 08/04/09 11:55 | 14913-49-6 | |
| Bismuth-214 | EPA 901.1m | 5.20 ± 5.63 (2.50) | pCi/L | 08/04/09 11:55 | 14733-03-0 | |
| Cesium-137 | EPA 901.1m | -0.670 ± 2.11 (1.07) | pCi/L | 08/04/09 11:55 | 10045-97-3 | |
| Cobalt-60 | EPA 901.1m | -1.75 ± 10.7 (1.25) | pCi/L | 08/04/09 11:55 | 10198-40-0 | |
| Europium-154 | EPA 901.1m | 2.83 ± 4.89 (2.44) | pCi/L | 08/04/09 11:55 | 15585-10-1 | |
| Lead-210 | EPA 901.1m | -270 ± 1,420 (706) | pCi/L | 08/04/09 11:55 | 14255-04-0 | |
| Lead-212 | EPA 901.1m | 7.68 ± 9.09 (1.97) | pCi/L | 08/04/09 11:55 | 15092-94-1 | |
| Lead-214 | EPA 901.1m | 3.12 ± 4.92 (2.51) | pCi/L | 08/04/09 11:55 | 15067-28-4 | |
| Manganese-54 | EPA 901.1m | -0.064 ± 1.27 (1.41) | pCi/L | 08/04/09 11:55 | 13966-31-9 | |
| Potassium-40 | EPA 901.1m | -18.6 ± 63.7 (13.0) | pCi/L | 08/04/09 11:55 | 13966-00-2 | |
| Thallium-208 | EPA 901.1m | 2.76 ± 4.92 (2.47) | pCi/L | 08/04/09 11:55 | 14913-50-9 | |
| Thorium-234 | EPA 901.1m | 85.8 ± 57.4 (163) | pCi/L | 08/04/09 11:55 | 15065-10-8 | |
| Uranium-235 | EPA 901.1m | 3.46 ± 2.51 (8.79) | pCi/L | 08/04/09 11:55 | 15117-96-1 | |
| Strontium-90 | EPA 905.0 | 0.503 ± 0.276 (0.481) | pCi/L | 08/12/09 07:15 | 10098-97-2 | |
| Tritium | EPA 906.0 | -115 ± 127 (234) | pCi/L | 08/11/09 01:09 | | |

QUALITY CONTROL DATA

Project: TOWN OF MARION WWTP 61024
Pace Project No.: 9249646

| | | | |
|-------------------------|------------|-----------------------|-----------------------|
| QC Batch: | RADC/2905 | Analysis Method: | EPA 905.0 |
| QC Batch Method: | EPA 905.0 | Analysis Description: | 905.0 Strontium 89/90 |
| Associated Lab Samples: | 9249646001 | | |

| | | | |
|-------------------------|------------|---------|-------|
| METHOD BLANK: | 82450 | Matrix: | Water |
| Associated Lab Samples: | 9249646001 | | |

| Parameter | Act ± Unc (MDC) | Units | Analyzed | Qualifiers |
|--------------|-----------------------|-------|----------------|------------|
| Strontium-90 | 0.349 ± 0.289 (0.573) | pCi/L | 08/12/09 07:15 | |

QUALITY CONTROL DATA

Project: TOWN OF MARION WWTP 61024
Pace Project No.: 9249646

QC Batch: RADC/2871 Analysis Method: EPA 901.1m
QC Batch Method: EPA 901.1m Analysis Description: 901.1 Gamma Spec
Associated Lab Samples: 9249646001

METHOD BLANK: 80688 Matrix: Water
Associated Lab Samples: 9249646001

| Parameter | Act ± Unc (MDC) | Units | Analyzed | Qualifiers |
|---------------|----------------------|-------|----------------|------------|
| Actinium-228 | 6.47 ± 6.77 (3.25) | pCi/L | 08/04/09 14:07 | |
| Americium-241 | -10.1 ± 39.9 (17.0) | pCi/L | 08/04/09 14:07 | |
| Bismuth-212 | -0.336 ± 25.6 (8.26) | pCi/L | 08/04/09 14:07 | |
| Bismuth-214 | 1.55 ± 4.76 (2.42) | pCi/L | 08/04/09 14:07 | |
| Cesium-137 | -0.896 ± 2.16 (1.09) | pCi/L | 08/04/09 14:07 | |
| Cobalt-60 | -1.46 ± 6.48 (1.14) | pCi/L | 08/04/09 14:07 | |
| Europium-154 | 0.333 ± 0.582 (2.41) | pCi/L | 08/04/09 14:07 | |
| Lead-210 | 16.4 ± 1,470 (753) | pCi/L | 08/04/09 14:07 | |
| Lead-212 | 0.334 ± 3.40 (1.79) | pCi/L | 08/04/09 14:07 | |
| Lead-214 | -2.64 ± 5.29 (2.55) | pCi/L | 08/04/09 14:07 | |
| Manganese-54 | -0.500 ± 2.62 (1.05) | pCi/L | 08/04/09 14:07 | |
| Potassium-40 | -36.0 ± 7.20 (17.6) | pCi/L | 08/04/09 14:07 | |
| Thallium-208 | -0.736 ± 72.3 (3.13) | pCi/L | 08/04/09 14:07 | |
| Thorium-234 | 86.4 ± 62.8 (135) | pCi/L | 08/04/09 14:07 | |
| Uranium-235 | 5.39 ± 2.89 (7.56) | pCi/L | 08/04/09 14:07 | |

QUALITY CONTROL DATA

Project: TOWN OF MARION WWTP 61024
Pace Project No.: 9249646

| | | | |
|-------------------------|------------|-----------------------|---------------|
| QC Batch: | RADC/2895 | Analysis Method: | EPA 906.0 |
| QC Batch Method: | EPA 906.0 | Analysis Description: | 906.0 Tritium |
| Associated Lab Samples: | 9249646001 | | |

| | | | |
|-------------------------|------------|---------|-------|
| METHOD BLANK: | 82237 | Matrix: | Water |
| Associated Lab Samples: | 9249646001 | | |

| Parameter | Act ± Unc (MDC) | Units | Analyzed | Qualifiers |
|-----------|-------------------|-------|----------------|------------|
| Tritium | -39.6 ± 130 (232) | pCi/L | 08/10/09 20:03 | |

QUALITY CONTROL DATA

Project: TOWN OF MARION WWTP 61024

Pace Project No.: 9249646

| | | | |
|-------------------------|------------|-----------------------|------------------------|
| QC Batch: | RADC/2868 | Analysis Method: | EPA 900.0m |
| QC Batch Method: | EPA 900.0m | Analysis Description: | 900.0 Gross Alpha/Beta |
| Associated Lab Samples: | 9249646001 | | |

| | | | |
|---------------|-------|---------|-------|
| METHOD BLANK: | 80681 | Matrix: | Water |
|---------------|-------|---------|-------|

Associated Lab Samples: 9249646001

| Parameter | Act ± Unc (MDC) | Units | Analyzed | Qualifiers |
|-------------|------------------------|-------|----------------|------------|
| Gross Alpha | 0.522 ± 0.324 (0.501) | pCi/L | 08/05/09 17:50 | |
| Gross Beta | -0.005 ± 0.310 (0.561) | pCi/L | 08/05/09 17:50 | |

QUALIFIERS

Project: TOWN OF MARION WWTP 61024
Pace Project No.: 9249646

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

Pace Analytical is NELAP accredited. Contact your Pace PM for the current list of accredited analytes.

U - Indicates the compound was analyzed for, but not detected.

LABORATORIES

PASI-A Pace Analytical Services - Asheville
PASI-C Pace Analytical Services - Charlotte
PASI-I Pace Analytical Services - Indianapolis
PASI-PA Pace Analytical Services - Greensburg

BATCH QUALIFIERS

Batch: WET/4900

[1] All samples were Non-Detect for Total Sulfide. Therefore, by definition, all Hydrogen Sulfide results are also Non-Detect.
ddm 7-31-09

ANALYTE QUALIFIERS

1g Acid surrogate recovery outside of control limits. The data was accepted based on valid recovery of the 2 remaining acid surrogates.
C9 Common Laboratory Contaminant.
H1 Analysis conducted outside the EPA method holding time.
HS Results are from sample aliquot taken from VOA vial with headspace (air bubble greater than 6 mm diameter).
M0 Matrix spike recovery was outside laboratory control limits.
M3 Matrix spike recovery was outside laboratory control limits due to matrix interferences.

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: TOWN OF MARION WWTP 61024
Pace Project No.: 9249646

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|------------|------------------|-----------------|-----------|-------------------|------------------|
| 9249646001 | OUTFALL 001 GRAB | EPA 900.0m | RADC/2868 | | |
| 9249646001 | OUTFALL 001 GRAB | EPA 901.1m | RADC/2871 | | |
| 9249646001 | OUTFALL 001 GRAB | EPA 906.0 | RADC/2895 | | |
| 9249646001 | OUTFALL 001 GRAB | EPA 905.0 | RADC/2905 | | |
| 9249646001 | OUTFALL 001 GRAB | EPA 7470 | MERP/2300 | EPA 7470 | MERC/2291 |
| 9249646001 | OUTFALL 001 GRAB | EPA 3010 | MPRP/4837 | EPA 6010 | ICP/4482 |
| 9249646001 | OUTFALL 001 GRAB | EPA 3535 | OEXT/7589 | EPA 608 | GCSV/5968 |
| 9249646001 | OUTFALL 001 GRAB | EPA 3535 | OEXT/7590 | EPA 8081 | GCSV/5967 |
| 9249646001 | OUTFALL 001 GRAB | EPA 625 | OEXT/7593 | EPA 625 | MSSV/2960 |
| 9249646001 | OUTFALL 001 GRAB | EPA 3510 | OEXT/7596 | EPA 8270 | MSSV/2962 |
| 9249646001 | OUTFALL 001 GRAB | EPA 624 | MSV/7908 | | |
| 9249646001 | OUTFALL 001 GRAB | SM 4500-CN-E | WETA/5635 | | |
| 9249646001 | OUTFALL 001 GRAB | EPA 8260 | MSV/7941 | | |
| 9249646002 | OUTFALL 001 COMP | SM 4500-CI-E | WETA/5642 | | |
| 9249646002 | OUTFALL 001 COMP | SM 4500-S F | WET/4900 | | |
| 9249646002 | OUTFALL 001 COMP | SM 4500-S2-D | WET/4908 | | |
| 9249646002 | OUTFALL 001 COMP | EPA 120.1 | WET/4921 | | |

August 12, 2009

Kevin Herring
Pace Analytical Charlotte
9800 Kincey Ave.
Suite 100
Huntersville, NC 28078

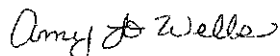
RE: Project: 9249646
Pace Project No.: 3013540

Dear Kevin Herring:

Enclosed are the analytical results for sample(s) received by the laboratory on July 30, 2009. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Amy Wells

amy.wells@pacelabs.com
Project Manager

Enclosures

REPORT OF LABORATORY ANALYSIS

Page 1 of 15

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CERTIFICATIONS

Project: 9249646
Pace Project No.: 3013540

Pennsylvania Certification IDs

Wyoming Certification #: 8TMS-Q
Wisconsin/PADEP Certification
West Virginia Certification #: 143
Washington Certification #: C1941
Virginia Certification #: 00112
Virgin Island/PADEP Certification
Utah/NELAC Certification #: ANTE
Texas/NELAC Certification #: T104704188-09 TX
Tennessee Certification #: TN2867
South Dakota Certification
Puerto Rico Certification #: PA01457
Pennsylvania/NELAC Certification #: 65-282
Oregon/NELAC Certification #: PA200002
North Carolina Certification #: 42706
New York/NELAC Certification #: 10888
New Mexico Certification
New Jersey/NELAC Certification #: PA 051
New Hampshire/NELAC Certification #: 2976
Nevada Certification
Montana Certification #: Cert 0082
Missouri Certification #: 235
Minnesota Certification #: 042-999-425
Michigan/PADEP Certification

Massachusetts Certification #: M-PA1457
Maryland Certification #: 308
Maine Certification #: PA0091
Louisiana/NELAC Certification #: LA080002
Louisiana/NELAC Certification #: 4086
Kentucky Certification #: 90133
Kansas/NELAC Certification #: E-10358
Iowa Certification #: 391
Indiana/PADEP Certification
Illinois/PADEP Certification
Idaho Certification
Hawaii/PADEP Certification
Guam/PADEP Certification
Georgia Certification #: 968
Florida/NELAC Certification #: E87683
Delaware Certification
Connecticut Certification #: PH 0694
Colorado Certification
California/NELAC Certification #: 04222CA
Arkansas Certification
Arizona Certification #: AZ0734
Alabama Certification #: 41590

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: 9249646
Pace Project No.: 3013540

| Lab ID | Sample ID | Matrix | Date Collected | Date Received |
|------------|------------------|--------|----------------|----------------|
| 9249646001 | OUTFALL 001 GRAB | Water | 07/28/09 08:10 | 07/30/09 09:45 |

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 9249646
Pace Project No.: 3013540

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|------------|------------------|------------|----------|-------------------|------------|
| 9249646001 | OUTFALL 001 GRAB | EPA 900.0m | RMD | 2 | PASI-PA |
| | | EPA 901.1m | TTF | 15 | PASI-PA |
| | | EPA 905.0 | MBT | 1 | PASI-PA |
| | | EPA 906.0 | JAL | 1 | PASI-PA |

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 9249646

Pace Project No.: 3013540

Method: EPA 900.0m

Description: 900.0 Gross Alpha/Beta

Client: PACE ANALYTICAL SERVICES, INC

Date: August 12, 2009

General Information:

1 sample was analyzed for EPA 900.0m. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 9249646

Pace Project No.: 3013540

Method: EPA 901.1m

Description: 901.1 Gamma Spec

Client: PACE ANALYTICAL SERVICES, INC

Date: August 12, 2009

General Information:

1 sample was analyzed for EPA 901.1m. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 9249646

Pace Project No.: 3013540

Method: EPA 905.0

Description: 905.0 Strontium 89/90

Client: PACE ANALYTICAL SERVICES, INC

Date: August 12, 2009

General Information:

1 sample was analyzed for EPA 905.0. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 9249646
Pace Project No.: 3013540

Method: EPA 906.0
Description: 906.0 Tritium
Client: PACE ANALYTICAL SERVICES, INC
Date: August 12, 2009

General Information:

1 sample was analyzed for EPA 906.0. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

Page 8 of 15

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ANALYTICAL RESULTS

Project: 9249646

Pace Project No.: 3013540

Sample: **OUTFALL 001 GRAB** Lab ID: **9249646001** Collected: 07/28/09 08:10 Received: 07/30/09 09:45 Matrix: Water
PWS: Site ID: Sample Type:

| Parameters | Method | Act ± Unc (MDC) | Units | Analyzed | CAS No. | Qual |
|---------------|------------|-----------------------|-------|----------------|------------|------|
| Gross Alpha | EPA 900.0m | 0.262 ± 0.638 (1.17) | pCi/L | 08/05/09 17:48 | 12587-46-1 | |
| Gross Beta | EPA 900.0m | 6.02 ± 1.23 (0.627) | pCi/L | 08/05/09 17:48 | 12587-47-2 | |
| Actinium-228 | EPA 901.1m | 6.98 ± 5.89 (2.73) | pCi/L | 08/04/09 11:55 | 14331-83-0 | |
| Americium-241 | EPA 901.1m | 19.2 ± 37.2 (18.6) | pCi/L | 08/04/09 11:55 | 86954-36-1 | |
| Bismuth-212 | EPA 901.1m | 6.91 ± 14.0 (7.03) | pCi/L | 08/04/09 11:55 | 14913-49-6 | |
| Bismuth-214 | EPA 901.1m | 5.20 ± 5.63 (2.50) | pCi/L | 08/04/09 11:55 | 14733-03-0 | |
| Cesium-137 | EPA 901.1m | -0.670 ± 2.11 (1.07) | pCi/L | 08/04/09 11:55 | 10045-97-3 | |
| Cobalt-60 | EPA 901.1m | -1.75 ± 10.7 (1.25) | pCi/L | 08/04/09 11:55 | 10198-40-0 | |
| Europium-154 | EPA 901.1m | 2.83 ± 4.89 (2.44) | pCi/L | 08/04/09 11:55 | 15585-10-1 | |
| Lead-210 | EPA 901.1m | -270 ± 1,420 (706) | pCi/L | 08/04/09 11:55 | 14255-04-0 | |
| Lead-212 | EPA 901.1m | 7.68 ± 9.09 (1.97) | pCi/L | 08/04/09 11:55 | 15092-94-1 | |
| Lead-214 | EPA 901.1m | 3.12 ± 4.92 (2.51) | pCi/L | 08/04/09 11:55 | 15067-28-4 | |
| Manganese-54 | EPA 901.1m | -0.064 ± 1.27 (1.41) | pCi/L | 08/04/09 11:55 | 13966-31-9 | |
| Potassium-40 | EPA 901.1m | -18.6 ± 63.7 (13.0) | pCi/L | 08/04/09 11:55 | 13966-00-2 | |
| Thallium-208 | EPA 901.1m | 2.76 ± 4.92 (2.47) | pCi/L | 08/04/09 11:55 | 14913-50-9 | |
| Thorium-234 | EPA 901.1m | 85.8 ± 57.4 (163) | pCi/L | 08/04/09 11:55 | 15065-10-8 | |
| Uranium-235 | EPA 901.1m | 3.46 ± 2.51 (8.79) | pCi/L | 08/04/09 11:55 | 15117-96-1 | |
| Strontium-90 | EPA 905.0 | 0.503 ± 0.276 (0.481) | pCi/L | 08/12/09 07:15 | 10098-97-2 | |
| Tritium | EPA 906.0 | -115 ± 127 (234) | pCi/L | 08/11/09 01:09 | | |

QUALITY CONTROL DATA

Project: 9249646

Pace Project No.: 3013540

QC Batch: RADC/2868

Analysis Method: EPA 900.0m

QC Batch Method: EPA 900.0m

Analysis Description: 900.0 Gross Alpha/Beta

Associated Lab Samples: 9249646001

METHOD BLANK: 80681

Matrix: Water

Associated Lab Samples: 9249646001

| Parameter | Act ± Unc (MDC) | Units | Analyzed | Qualifiers |
|-------------|------------------------|-------|----------------|------------|
| Gross Alpha | 0.522 ± 0.324 (0.501) | pCi/L | 08/05/09 17:50 | |
| Gross Beta | -0.005 ± 0.310 (0.561) | pCi/L | 08/05/09 17:50 | |

QUALITY CONTROL DATA

Project: 9249646
Pace Project No.: 3013540

| | | | |
|-------------------------|------------|-----------------------|------------------|
| QC Batch: | RADC/2871 | Analysis Method: | EPA 901.1m |
| QC Batch Method: | EPA 901.1m | Analysis Description: | 901.1 Gamma Spec |
| Associated Lab Samples: | 9249646001 | | |

| | | | |
|-------------------------|------------|---------|-------|
| METHOD BLANK: | 80688 | Matrix: | Water |
| Associated Lab Samples: | 9249646001 | | |

| Parameter | Act ± Unc (MDC) | Units | Analyzed | Qualifiers |
|---------------|----------------------|-------|----------------|------------|
| Actinium-228 | 6.47 ± 6.77 (3.25) | pCi/L | 08/04/09 14:07 | |
| Americium-241 | -10.1 ± 39.9 (17.0) | pCi/L | 08/04/09 14:07 | |
| Bismuth-212 | -0.336 ± 25.6 (8.26) | pCi/L | 08/04/09 14:07 | |
| Bismuth-214 | 1.55 ± 4.76 (2.42) | pCi/L | 08/04/09 14:07 | |
| Cesium-137 | -0.896 ± 2.16 (1.09) | pCi/L | 08/04/09 14:07 | |
| Cobalt-60 | -1.46 ± 6.48 (1.14) | pCi/L | 08/04/09 14:07 | |
| Europium-154 | 0.333 ± 0.582 (2.41) | pCi/L | 08/04/09 14:07 | |
| Lead-210 | 16.4 ± 1,470 (753) | pCi/L | 08/04/09 14:07 | |
| Lead-212 | 0.334 ± 3.40 (1.79) | pCi/L | 08/04/09 14:07 | |
| Lead-214 | -2.64 ± 5.29 (2.55) | pCi/L | 08/04/09 14:07 | |
| Manganese-54 | -0.500 ± 2.62 (1.05) | pCi/L | 08/04/09 14:07 | |
| Potassium-40 | -36.0 ± 7.20 (17.6) | pCi/L | 08/04/09 14:07 | |
| Thallium-208 | -0.736 ± 72.3 (3.13) | pCi/L | 08/04/09 14:07 | |
| Thorium-234 | 86.4 ± 62.8 (135) | pCi/L | 08/04/09 14:07 | |
| Uranium-235 | 5.39 ± 2.89 (7.56) | pCi/L | 08/04/09 14:07 | |

QUALITY CONTROL DATA

Project: 9249646
Pace Project No.: 3013540

| | | | |
|-------------------------|------------|-----------------------|---------------|
| QC Batch: | RADC/2895 | Analysis Method: | EPA 906.0 |
| QC Batch Method: | EPA 906.0 | Analysis Description: | 906.0 Tritium |
| Associated Lab Samples: | 9249646001 | | |

| | | | |
|-------------------------|------------|---------|-------|
| METHOD BLANK: | 82237 | Matrix: | Water |
| Associated Lab Samples: | 9249646001 | | |

| Parameter | Act ± Unc (MDC) | Units | Analyzed | Qualifiers |
|-----------|-------------------|-------|----------------|------------|
| Tritium | -39.6 ± 130 (232) | pCi/L | 08/10/09 20:03 | |

QUALITY CONTROL DATA

Project: 9249646

Pace Project No.: 3013540

QC Batch: RADC/2905

Analysis Method: EPA 905.0

QC Batch Method: EPA 905.0

Analysis Description: 905.0 Strontium 89/90

Associated Lab Samples: 9249646001

METHOD BLANK: 82450

Matrix: Water

Associated Lab Samples: 9249646001

| Parameter | Act ± Unc (MDC) | Units | Analyzed | Qualifiers |
|--------------|-----------------------|-------|----------------|------------|
| Strontium-90 | 0.349 ± 0.289 (0.573) | pCi/L | 08/12/09 07:15 | |

QUALIFIERS

Project: 9249646
Pace Project No.: 3013540

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

Pace Analytical is NELAP accredited. Contact your Pace PM for the current list of accredited analytes.

U - Indicates the compound was analyzed for, but not detected.

LABORATORIES

PASI-PA Pace Analytical Services - Greensburg

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 9249646
Pace Project No.: 3013540

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|------------|------------------|-----------------|-----------|-------------------|------------------|
| 9249646001 | OUTFALL 001 GRAB | EPA 900.0m | RADC/2868 | | |
| 9249646001 | OUTFALL 001 GRAB | EPA 901.1m | RADC/2871 | | |
| 9249646001 | OUTFALL 001 GRAB | EPA 906.0 | RADC/2895 | | |
| 9249646001 | OUTFALL 001 GRAB | EPA 905.0 | RADC/2905 | | |



Data Analysis Technologies, Inc.

7715 Corporate Blvd.
Plain City, OH 43064
800-733-8644

Sample Analysis Certificate

Client: Pace Analytical Services, Inc.
Address: 370 West Meadow Road
Eden, NC 27288

Date: 8/12/09
Project ID: 0709036
Sample Date: 7/28/09
Date Received: 7/30/09
Analysis Date: 8/11/09
Analyst: KD


Attn: Kevin Herring
Your Project: 9249646
Sampled by: Not provided

Analysis: NBSIR-85-3295 / Tributyltin

Results: See attached summary table.

QC: See attached summary table. Recoveries for the matrix spike and spike duplicate were less than those for the laboratory spike and spike duplicate.

Reviewed and approved for release by:


Beth Kaze Curran, Ph. D
Chemist, DAT

Date: 8/12/09

Data Analysis Technologies, Inc.
7715 Corporate Boulevard
Plain City, OH 43064

Data Summary Table
NBSIR 85-3295 / Tributyltin

Client: Pace Analytical
Client Project: 9249646
DAT Project: 0709036
Date Sampled: 7/28/2009
Date Received: 7/30/2009
Date Prepped: 8/10/2009
Date Analyzed: 8/11/2009
Analyst: KD

| Client Sample ID: | DAT Sample ID: | Analyte: | <i>Sample</i> MDL, ug/L | TBT, ug/L | Q |
|--------------------------|-----------------------|-----------------|-----------------------------------|----------------------------|----------|
| 9249646001 | 0709036- 1 | Tributyltin | 0.05 | ND | |

TBT=Tributyltin

ND=Not detected above the detection limit.

B = Method blank contained a trace level of the compound of interest.

D = Value measured from a dilution.

J = Value less than the low standard.

Data Analysis Technologies, Inc.
7715 Corporate Boulevard
Plain City, OH 43064

QC Summary Table
NBSIR 85-3295 / Tributyltin

Client: Pace Analytical
Client Project: 9249646
DAT Project: 0709036
Date Sampled: 7/28/2009
Date Received: 7/30/2009
Date Prepped: 8/10/2009
Date Analyzed: 8/11/2009
Analyst: KD

| Client Sample ID: | DAT Sample ID: | Analyte: | Instr. Conc, ug/mL | Sample MDL, ug/L | % Rec | % RSD | Q |
|----------------------------|----------------|-------------|--------------------------|---------------------|-------|-------|---|
| Method Blank | MB | Tributyltin | ND | 0.05 | | | |
| Matrix Spike | 0709036-IMS | Tributyltin | 5.86 | 0.05 | 59 | | |
| Matrix Spike Duplicate | 0709036-1MSD | Tributyltin | 5.50 | 0.05 | 55 | | |
| Laboratory Spike | LS | Tributyltin | 10.26 | 0.05 | 103 | | |
| Laboratory Spike Duplicate | LSD | Tributyltin | 9.68 | 0.05 | 97 | 6 | |

TBT = Tributyltin

ND = Not detected at the detection limit shown.

D = Value measured from a dilution.

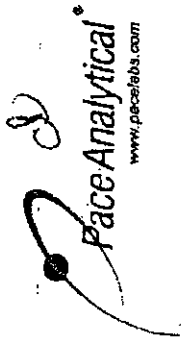
J = Value less than the low standard.

DOCUMENTATION

Chain of Custody

Over ~~the~~ ^{VA}

\$150



Workorder: 9249646 **Workorder Name:** TOWN OF MARION WWTP 61024 **Results Requested:** 8/12/2009
Report / Invoice To: Kevin Herring
Subcontract To: Date P.O. 04506231
 Pace Analytical Charlotte
 9800 Kinney Ave. Suite 100
 Huntersville, NC 28078
 Phone (704)875-9092
 Email: kevin.herring@pacelabs.com

| Item | Sample ID | Collect Date/Time | Lab ID | Matrix | Preserved Containers | | | | | LAB USE ONLY |
|------|------------------|-------------------|------------|--------|----------------------|---|---|---|---|--------------|
| | | | | | 1 | 2 | 3 | 4 | 5 | |
| 1 | OUTFALL 001 COMP | 7/28/2009 08:30 | 9249646001 | Water | | | | | | |
| 2 | | | | | | | | | | |
| 3 | | | | | | | | | | |
| 4 | | | | | | | | | | |
| 5 | | | | | | | | | | |

| Transfers | Released By | Date/Time | Received By | Date/Time | Comments |
|-----------|-------------|-----------|-------------|-----------|----------|
| | | | | | |
| 1 | | | | | |
| 2 | | | | | |
| 3 | | | | | |
| 4 | | | | | |
| 5 | | | | | |

Handwritten signature 8-5-09 09:00

Spes Rosent

0702036

Chain of Custody



Workorder: 9249646

Workorder Name: TOWN OF MARION WWTP 61024

Results Requested 8/12/2009

| | | | | | |
|--|--|-----------------------|--|--------------------|--|
| Report / Invoice To | | Subcontract To | | Requested Analysis | |
| Kevin Herring Pace Analytical Charlotte 9800 Kinney Ave. Suite 100 Huntersville, NC 28078 Phone (704)875-9092 Email: kevin.herring@pacelabs.com | | Date P.O. 04506231 | | | |

| Item | Sample ID | Collect Date/Time | Lab ID | Matrix | Preserved Containers | | LAB USE ONLY |
|------|------------------|-------------------|------------|--------|----------------------|--|--------------|
| | | | | | Other | | |
| 1 | OUTFALL 001 COMP | 7/28/2009 08:30 | 9249646002 | Water | 1 | | |
| 2 | | | | | | | |
| 3 | | | | | | | |
| 4 | | | | | | | |
| 5 | | | | | | | |

| Comments | | | |
|-----------|-------------|-----------|-------------|
| Transfers | Released By | Date/Time | Received By |
| 1 | | | |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |

Kevin Herring
7-30-09 1130

07090312

ORIGIN ID. SRWA (704) 875-9092
PACE ANALYTICAL SERVICES, INC.
PACE ANALYTICAL SERVICES, INC.
9800 KINCEY AVENUE
SUITE 100
HUNTERSVILLE, NC 28076
UNITED STATES US

Ship Date: 04AUG09
ActWgt: 27.9 LB
System#: 0050643/CAFE2361
Account: S *****

TO SAMPLE RECEIVING
D.A.T.
7715 CORPORATE BLVD

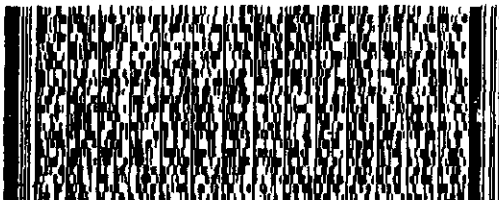
(614) 873-0710

FedEx
Express



PLAIN CITY, OH 43064

Ref: 9203 SUB OUT
Dept: MARKETIN /CLIENT SERVICE



Delivery Address
Barcode

BILL SENDER

STANDARD OVERNIGHT

TRK# 6594 2189 7804 Form 0201

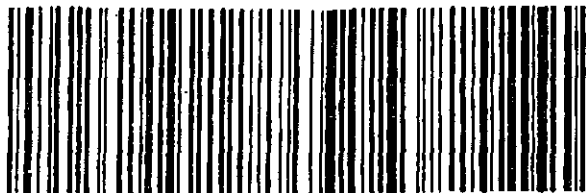
WED

Deliver By:
05AUG09

LCK A2

43064 -OH-US

NU CMHA



TO SAMPLE RECEIVING
D.A.T.
7715 CORPORATE BLVD

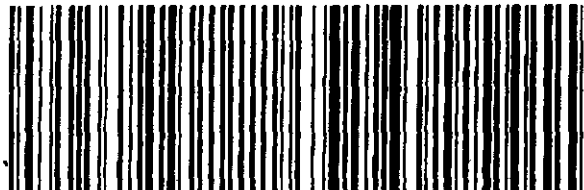
(614) 873-0710



CL5050107/22/23

Ref: 9203
Dept: 9203 SUB OUT

NU CMHA



DAT Labs Inc. **Sample Receipt Report**

Client/Number: Pace Analytical Charlotte (10984)
 Custodian Initial: LT Date: 7-30-09
 Secondary Review: Initials: _____ Date: _____
 The client has been contacted. Yes _____ No _____

Upon receipt of samples, check if any of the following discrepancies have been noted.

| Discrepancy Type | Specify applicable client ID or "all" |
|--|---|
| COC and samples do not match | <u>SP102</u> |
| No unique sample identifications | <u>8-5-09</u> |
| Samples received outside of the required temp criteria. | <u>5.2</u> |
| No preservation type was noted | <u>-1.7</u> |
| No date of collection stated | <u>3.5</u> |
| No time of collection stated | |
| The sample collector was not named | |
| Sample containers were not appropriate | |
| Sample labels were destroyed or unreadable | |
| Samples were received outside of holding time | |
| There was not enough sample to perform the requested analysis. | |
| Samples showed sign of damage or contamination. | |
| Aqueous samples for volatile analysis: Headspace? Y N | If Yes, list sample ID(s) in details: |
| Sample pH acidic basic neutral | Check pH of aqueous samples if no preservation is noted on COC. |

Details: Pace Lab ID # on Bottle is: -001 on Coc: -002
SP102 ID # is same on both
Added comment - they sent the wrong bottle. Note media water to return this bottle
 Sample pH for nonvolatile aqueous samples and presence or absence of headspace (Y or N) for VOA aqueous samples shall be recorded at time of sample log-in. 8/2 8/4/09
 Under no circumstances shall VOA vials be opened at time of sample receipt. Rec'd 2 bottles on 8-5-09 to replace spk from 7-30-09

Other Discrepancies: _____
 Sample ID _____
 Discrepancy _____

☒ Upon receipt, the samples met all of DAT's acceptance criteria. DAT Project # 0709036

DAT SAMPLE RECEIVING

7715 Corporate Blvd. Plain City, OH 43064.

Project Number: 0709036

| | | | |
|------------------|---------------------------|---------------|----------------------------|
| Date Received: | 7/30/2009 | Carrier: | Fed-X overnight |
| Client Name: | Pace Analytical Charlotte | Analysis: | Tributyltin |
| Tracking number: | 659421887322 | Package Temp: | 2.3 |
| Custody Seals ?: | No | COC: | ✓ check if COC from client |

Sample Information

| Client ID: | Laboratory ID | Date | Matrix: | Container: | Comment: |
|---------------------------------------|------------------|-----------|---------|---------------------------|----------|
| Marion Outfall 001 Comp 9249646001 | 0709036-1 A&B | 7/28/2009 | Liquid | 1liter Amber WM Bottle | |

Laboratory Receiving Initials

0709036
8/5/2009 9:28:15 AM

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

[illegible]

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

| | | | | | |
|--|--|---|--|---|--------------------|
| Section A Required Client Information: | | Section B Required Project Information: | | Section C Invoice Information: | |
| Company: | OLVER INCORPORATED | Report To: | Lawrence Hoffman | Attention: | TERESA DAVIS |
| Address: | 1116 SOUTH MAIN STREET | Copy To: | Amy Alexander | Company Name: | OLVER INCORPORATED |
| | BLACKSBURG, VA 24060 | | aalexander@olver.com | Address: | |
| Mail To: | lhoffman@olver.com | Purchase Order No.: | | Pace Quota Reference: | # 92070909; 160 |
| Phone: | 1-540-552-5548 | Project Name: | Town of Marion WWTP | Pace Project Manager: | Kevin Herring |
| Requested Due Date/TAT: | 18-DAY TAT | Project Number: | 61024 | Pace Profile #: | |
| | | | | <div style="display: flex; justify-content: space-between;"> <div> REGULATORY AGENCY <div style="border: 1px solid black; border-radius: 50%; padding: 2px; display: inline-block;">NPDES</div> <div style="display: flex; justify-content: space-around; width: 100%;"> <div>GROUND WATER</div> <div>DRINKING WATER</div> </div> <div style="display: flex; justify-content: space-around; width: 100%;"> <div>RCRA</div> <div>OTHER</div> </div> </div> <div> Site Location <div style="display: flex; justify-content: space-between;"> <div>VA</div> <div>STATE:</div> </div> </div> </div> | |

[illegible][illegible]



Client Name Dover Project # 9249646

Courier: ☐ Fed Ex ☒ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other _____

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☒ yes ☐ no

Packing Material: ☐ Bubble Wrap ☒ Bubble Bags ☐ None ☐ Other _____

Thermometer Used T060

Type of Ice Wet Blue None ☒ Samples on ice, cooling process has begun

Cooler Temperature 6.0

Biological Tissue is Frozen: Yes No N/A

Date and Initials of person examining contents: mm 7/30/09

Temp should be above freezing to 6°C

Comments:

| | | |
|---|--|--|
| Chain of Custody Present: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 1. |
| Chain of Custody Filled Out: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 2. |
| Chain of Custody Relinquished: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 3. |
| Sampler Name & Signature on COC: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 4. |
| Samples Arrived within Hold Time: | <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 5. |
| Short Hold Time Analysis (<72hr): | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | 6. |
| Rush Turn Around Time Requested: | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | 7. |
| Sufficient Volume: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 8. |
| Correct Containers Used: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 9. |
| -Pace Containers Used: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | |
| Containers Intact: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 10. |
| Filtered volume received for Dissolved tests | <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 11. |
| Sample Labels match COC: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 12. <u>Did not receive call for Tributyltine</u> |
| -Includes date/time/ID/Analysis Matrix: | <u>7/29/09</u> <u>WT</u> | |
| If containers needing preservation have been checked: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 13. |
| If containers needing preservation are found to be in compliance with EPA recommendation: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | |
| ceptions: VOA, coliform, TOC, O&G, WI-DRO (water) | <input type="checkbox"/> Yes <input type="checkbox"/> No | Initial when completed |
| amples checked for dechlorination: | <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 14. |
| eadspace in VOA Vials (>6mm): | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | 15. |
| ip Blank Present: | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A | 16. |
| ip Blank Custody Seals Present | <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | |
| ice Trip Blank Lot # (if purchased): | N/A | |

ent Notification/ Resolution:

Field Data Required? Y / N / N/A

Person Contacted: _____ Date/Time: _____

omments/ Resolution: _____

Project Manager Review: [Signature]

Date: 7/30/09



Pace Analytical Services, Inc.
2225 Riverside Dr.
Asheville, NC 28804
(828)254-7176

Pace Analytical Services, Inc.
9800 Kinney Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

October 13, 2009

Mr. Robert Henika
Olver Inc
1116 South Main Street
Blacksburg, VA 24060

RE: Project: Town of Marion WWTP
Pace Project No.: 9254140

Dear Mr. Henika:

Enclosed are the analytical results for sample(s) received by the laboratory on September 30, 2009. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

Inorganic Wet Chemistry and Metals analyses were performed at our Pace Asheville laboratory and Organic testing was performed at our Pace Huntersville laboratory unless otherwise footnoted. All Microbiological analyses were performed at the laboratory where the samples were received.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Kevin Herring

kevin.herring@pacelabs.com
Project Manager

Enclosures

cc: Ms. Sandra Warner, Olver, Inc.

REPORT OF LABORATORY ANALYSIS

Page 1 of 9

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Pace Analytical Services, Inc.
2225 Riverside Dr.
Asheville, NC 28804
(828)254-7176

Pace Analytical Services, Inc.
9800 Kinney Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

CERTIFICATIONS

Project: Town of Marion WWTP
Pace Project No.: 9254140

Charlotte Certification IDs

West Virginia Certification #: 357
Virginia Certification #: 00213
Connecticut Certification #: PH-0104
Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
Louisiana/LELAP Certification #: 04034
New Jersey Certification #: NC012

North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
Pennsylvania Certification #: 68-00784
South Carolina Certification #: 990060001
South Carolina Drinking Water Cert. #: 990060003
Tennessee Certification #: 04010

Asheville Certification IDs

West Virginia Certification #: 356
Florida/NELAP Certification #: E87648
Louisiana/LELAP Certification #: 03095
Massachusetts Certification #: M-NC030
New Jersey Certification #: NC011
North Carolina Bioassay Certification #: 9
Connecticut Certification #: PH-0106

North Carolina Wastewater Certification #: 40
Pennsylvania Certification #: 68-03578
South Carolina Bioassay Certification #: 99030002
South Carolina Certification #: 99030001
Tennessee Certification #: 2980
Virginia Certification #: 00072
North Carolina Drinking Water Certification #: 37712

REPORT OF LABORATORY ANALYSIS

Page 2 of 9

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Pace Analytical Services, Inc.
2225 Riverside Dr.
Asheville, NC 28804
(828)254-7176

Pace Analytical Services, Inc.
9800 Kinsey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

SAMPLE SUMMARY

Project: Town of Marion WWTP
Pace Project No.: 9254140

| Lab ID | Sample ID | Matrix | Date Collected | Date Received |
|------------|-----------|--------|----------------|----------------|
| 9254140001 | GRAB | Water | 09/29/09 08:30 | 09/30/09 08:00 |

REPORT OF LABORATORY ANALYSIS

Page 3 of 9

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Pace Analytical Services, Inc.
2225 Riverside Dr.
Asheville, NC 28804
(828)254-7176

Pace Analytical Services, Inc.
9800 Kinney Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

SAMPLE ANALYTE COUNT

Project: Town of Marion WWTP
Pace Project No.: 9254140

| Lab ID | Sample ID | Method | Analysts | Analytes Reported |
|------------|-----------|--------------|----------|-------------------|
| 9254140001 | GRAB | EPA 8260 | AW | 6 |
| | | SM 4500-CN-E | LEP | 1 |

REPORT OF LABORATORY ANALYSIS

Page 4 of 9

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ANALYTICAL RESULTS

Project: Town of Marion WWTP
Pace Project No.: 9254140

| Sample: GRAB | | Lab ID: 9254140001 | Collected: 09/29/09 08:30 | Received: 09/30/09 08:00 | Matrix: Water | | | | |
|-------------------------------|---------|---------------------------------|---------------------------|--------------------------|---------------|----------|----------------|------------|------|
| Parameters | Results | Units | Report Limit | MDL | DF | Prepared | Analyzed | CAS No. | Qual |
| 8260 MSV Low Level | | Analytical Method: EPA 8260 | | | | | | | |
| m&p-Xylene | ND | ug/L | 2.0 | 0.66 | 1 | | 10/03/09 05:28 | 1330-20-7 | |
| o-Xylene | ND | ug/L | 1.0 | 0.23 | 1 | | 10/03/09 05:28 | 95-47-6 | |
| 4-Bromofluorobenzene (S) | 99 | % | 87-109 | | 1 | | 10/03/09 05:28 | 460-00-4 | |
| Dibromofluoromethane (S) | 106 | % | 85-115 | | 1 | | 10/03/09 05:28 | 1868-53-7 | |
| 1,2-Dichloroethane-d4 (S) | 116 | % | 79-120 | | 1 | | 10/03/09 05:28 | 17060-07-0 | |
| Toluene-d8 (S) | 109 | % | 70-120 | | 1 | | 10/03/09 05:28 | 2037-26-5 | |
| 4500CNE Cyanide, Total | | Analytical Method: SM 4500-CN-E | | | | | | | |
| Cyanide | ND | mg/L | 0.0050 | 0.0050 | 1 | | 10/12/09 15:00 | 57-12-5 | |

QUALITY CONTROL DATA

Project: Town of Marion WWTP
Pace Project No.: 9254140

QC Batch: MSV/8521 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV Low Level
Associated Lab Samples: 9254140001

METHOD BLANK: 344888 Matrix: Water

Associated Lab Samples: 9254140001

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---------------------------|-------|--------------|-----------------|----------------|------------|
| m&p-Xylene | ug/L | ND | 2.0 | 10/03/09 03:53 | |
| o-Xylene | ug/L | ND | 1.0 | 10/03/09 03:53 | |
| 1,2-Dichloroethane-d4 (S) | % | 108 | 79-120 | 10/03/09 03:53 | |
| 4-Bromofluorobenzene (S) | % | 101 | 87-109 | 10/03/09 03:53 | |
| Dibromofluoromethane (S) | % | 101 | 85-115 | 10/03/09 03:53 | |
| Toluene-d8 (S) | % | 99 | 70-120 | 10/03/09 03:53 | |

LABORATORY CONTROL SAMPLE: 344889

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---------------------------|-------|-------------|------------|-----------|--------------|------------|
| m&p-Xylene | ug/L | 100 | 98.3 | 98 | 82-127 | |
| o-Xylene | ug/L | 50 | 55.2 | 110 | 83-124 | |
| 1,2-Dichloroethane-d4 (S) | % | | | 108 | 79-120 | |
| 4-Bromofluorobenzene (S) | % | | | 111 | 87-109 S0 | |
| Dibromofluoromethane (S) | % | | | 108 | 85-115 | |
| Toluene-d8 (S) | % | | | 105 | 70-120 | |

QUALITY CONTROL DATA

Project: Town of Marion WWTP
Pace Project No.: 9254140

QC Batch: WETA/6011 Analysis Method: SM 4500-CN-E
QC Batch Method: SM 4500-CN-E Analysis Description: 4500CNE Cyanide, Total
Associated Lab Samples: 9254140001

METHOD BLANK: 349408 Matrix: Water
Associated Lab Samples: 9254140001

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|-----------|-------|--------------|-----------------|----------------|------------|
| Cyanide | mg/L | ND | 0.0050 | 10/12/09 14:47 | |

LABORATORY CONTROL SAMPLE: 349409

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|-------------|------------|-----------|--------------|------------|
| Cyanide | mg/L | .1 | 0.11 | 110 | 80-120 | |

MATRIX SPIKE SAMPLE: 349410

| Parameter | Units | 9254597001 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|-------------------|-------------|-----------|----------|--------------|------------|
| Cyanide | mg/L | ND | .1 | 0.11 | 109 | 75-125 | |

MATRIX SPIKE SAMPLE: 349414

| Parameter | Units | 9254216001 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|-----------|-------|-------------------|-------------|-----------|----------|--------------|------------|
| Cyanide | mg/L | ND | .1 | 0.17 | 166 | 75-125 M0 | |

SAMPLE DUPLICATE: 349413

| Parameter | Units | 9254616001 Result | Dup Result | RPD | Max RPD | Qualifiers |
|-----------|-------|-------------------|------------|-----|---------|------------|
| Cyanide | mg/L | ND | ND | | 20 | |

SAMPLE DUPLICATE: 349415

| Parameter | Units | 9254112004 Result | Dup Result | RPD | Max RPD | Qualifiers |
|-----------|-------|-------------------|------------|-----|---------|------------|
| Cyanide | mg/L | ND | ND | | 20 | |

QUALIFIERS

Project: Town of Marion WWTP
Pace Project No.: 9254140

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

Pace Analytical is NELAP accredited. Contact your Pace PM for the current list of accredited analytes.

U - Indicates the compound was analyzed for, but not detected.

ANALYTE QUALIFIERS

M0 Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

S0 Surrogate recovery outside laboratory control limits.



Pace Analytical Services, Inc.
2225 Riverside Dr.
Asheville, NC 28804
(828)254-7176

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Town of Marion WWTP
Pace Project No.: 9254140

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|------------|-----------|-----------------|-----------|-------------------|------------------|
| 9254140001 | GRAB | EPA 8260 | MSV/8521 | | |
| 9254140001 | GRAB | SM 4500-CN-E | WETA/6011 | | |



CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

| | | | | | |
|--|---------------------|---|------------|---|----|
| Section A Required Client Information: | | Section B Required Project Information: | | Section C Invoice Information: | |
| Company: | Report To: | Company Name: | Attention: | Page: | of |
| Address: | Copy To: | Address: | | 1329173 | |
| Email To: | Purchase Order No.: | Pace Quote Reference: | | REGULATORY AGENCY | |
| Phone: | Project Name: | Pace Project Manager: | | <input type="checkbox"/> NPDES <input type="checkbox"/> GROUND WATER <input type="checkbox"/> DRINKING WATER <input type="checkbox"/> UST <input type="checkbox"/> RCRA <input type="checkbox"/> OTHER | |
| Requested Due Date/TAT: | Project Number: | Pace Profile #: | | Site Location | |
| | | | | STATE: | |

| ITEM # | Section D Required Client Information | Matrix Codes MATRIX / CODE | SAMPLE TYPE (G=GRAB C=COMP) | COLLECTED | | SAMPLE TEMP AT COLLECTION | # OF CONTAINERS | Preservatives | Analysis Test 1 | Temp in °C | Received on | Custody Sealed Cooler | Samples Intact |
|--------|--|-------------------------------|-----------------------------|-----------------|--------------------|---------------------------|-----------------|---|-----------------|------------|-------------|-----------------------|----------------|
| | | | | COMPOSITE START | COMPOSITE END/GRAB | | | | | | | | |
| 1 | SAMPLE ID (A-Z, 0-9 / ,) Sample IDs MUST BE UNIQUE | Drinking Water | G | DATE | TIME | DATE | TIME | Unpreserved | Analysis Test 1 | | | | |
| 2 | | Water | G | 9-29 | 8:30 | 9-29 | 8:30 | H ₂ SO ₄ | | | | | |
| 3 | | Waste Water | | | | | | HCl | | | | | |
| 4 | | Product | | | | | | NaOH | | | | | |
| 5 | | Soil/Solid | | | | | | HNO ₃ | | | | | |
| 6 | | Oil | | | | | | Na ₂ S ₂ O ₃ | | | | | |
| 7 | | Wipe | | | | | | Methanol | | | | | |
| 8 | | Air | | | | | | Other | | | | | |
| 9 | | Tissue | | | | | | | | | | | |
| 10 | | Other | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | |

| ADDITIONAL COMMENTS | RELINQUISHED BY / AFFILIATION | DATE | TIME | ACCEPTED BY / AFFILIATION | DATE | TIME | SAMPLE CONDITIONS |
|---------------------|-------------------------------|------|-------|---------------------------|-----------|------|-------------------|
| | Dan Jester / TransForm | 9-29 | 9:00A | Monro Pao | 9-30-2003 | 4 | U4 |

| | | | |
|-----------------|--|--|--|
| ORIGINAL pH 6.8 | | SAMPLER NAME AND SIGNATURE | |
| | | PRINT Name of SAMPLER: Dan Jester SIGNATURE of SAMPLER: <i>[Signature]</i> | |
| | | DATE Signed (MM/DD/YY): 9-29-07 | |

**Sample Condition Upon Receipt**Client Name: marion Project # 9254226Courier: ☐ Fed Ex ☒ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other _____Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☒ yes ☐ noPacking Material: ☐ Bubble Wrap ☒ Bubble Bags ☐ None ☐ Other _____Thermometer Used T060Type of ice: ☒ Wet ☐ Blue ☐ None ☐ Samples on ice, cooling process has begunCooler Temperature: 30

Biological Tissue is Frozen: Yes No N/A

Temp should be above freezing to 6°C

Comments:

| |
|---------------------|
| Optional |
| Proj. Due Date: N/A |
| Proj. Name: N/A |

Date and Initials of person examining contents: mm9130

| | | |
|--|--|---|
| Chain of Custody Present: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 1. |
| Chain of Custody Filled Out: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 2. <u>12/1/09</u> |
| Chain of Custody Relinquished: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 3. |
| Sampler Name & Signature on COC: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 4. |
| Samples Arrived within Hold Time: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 5. |
| Short Hold Time Analysis (<72hr): | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | 6. |
| Rush Turn Around Time Requested: | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | 7. |
| Sufficient Volume: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 8. |
| Correct Containers Used: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 9. |
| -Pace Containers Used: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | |
| Containers Intact: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 10. |
| Filtered volume received for Dissolved tests | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A | 11. |
| Sample Labels match COC: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 12. <u>Name on bottle Town of marion 8/19/09 9/15/09 8/30</u> |
| -Includes date/time/ID/Analysis Matrix: | <u>9/30/09</u> <u>WT</u> | |
| All containers needing preservation have been checked. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | 13. <u>received OK, 8/30</u> |
| All containers needing preservation are found to be in compliance with EPA recommendation. | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A | <u>Nothing marked Once</u> |
| exceptions: VOA, coliform, TOC, O&G, WI-DRO (water) | <input type="checkbox"/> Yes <input type="checkbox"/> No | Initial when completed |
| Samples checked for dechlorination: | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A | 14. |
| Headspace in VOA Vials (>6mm): | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A | 15. |
| Trip Blank Present: | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A | 16. |
| Trip Blank Custody Seals Present | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A | |
| Pace Trip Blank Lot # (if purchased): | N/A | |

Client Notification/ Resolution:

Field Data Required? Y / N / N/A

Person Contacted: AMY ALEXANDER Date/Time: 10/1/09 1035

Comments/ Resolution:

Run Cyanide + 8200 on these samples

Project Manager Review:

[Signature]

Date:

10/1/09

VPDES PERMIT APPLICATION ADDENDUM

Received

JAN 05 2011

1. Entity to whom the permit is to be issued: TOWN OF MARTIN VA.

Who will be legally responsible for the wastewater treatment facilities and compliance with the permit? This may or may not be the facility or property owner. LLJ-SWRO

2. Is this facility located within city or town boundaries? Y ☒ N

3. Provide the tax map parcel number for the land where the discharge is located. _____

4. For the facility to be covered by this permit, how many acres will be disturbed during the next five years due to new construction activities? 0

5. What is the design average effluent flow of this facility? 3.4 MGD

For industrial facilities, provide the max. 30-day average production level, include units:

In addition to the design flow or production level, should the permit be written with limits for any other discharge flow tiers or production levels? Y ☒ N

If "Yes", please identify the other flow tiers (in MGD) or production levels:

Please consider the following questions for both the flow tiers and the production levels (if applicable): Do you plan to expand operations during the next five years? Is your facility's design flow considerably greater than your current flow?

6. Nature of operations generating wastewater:

60 % of flow from domestic connections/sources

Number of private residences to be served by the treatment works: _____

40 % of flow from non-domestic connections/sources

7. Mode of discharge: ☒ Continuous ☐ Intermittent ☐ Seasonal

Describe frequency and duration of intermittent or seasonal discharges:

8. Identify the characteristics of the receiving stream at the point just above the facility's discharge point:

☒ Permanent stream, never dry

☐ Intermittent stream, usually flowing, sometimes dry

☐ Ephemeral stream, wet-weather flow, often dry

☐ Effluent-dependent stream, usually or always dry without effluent flow

☐ Lake or pond at or below the discharge point

☐ Other: _____

9. Approval Date(s):

O & M Manual 12/1993

Sludge/Solids Management Plan 7/2006

Have there been any changes in your operations or procedures since the above approval dates? Y ☒ N

Received

VIRGINIA DEQ NO EXPOSURE CERTIFICATION
FOR EXCLUSION FROM VPDES STORM WATER PERMITTING

JAN 05 2011

DEQ-SWRO

Submission of this No Exposure Certification constitutes notice that the entity identified below does not require permit authorization for its storm water discharges associated with industrial activity under the VPDES Permit Program due to the existence of a condition of No Exposure.

A condition of No Exposure exists at an industrial facility when all industrial materials and activities are protected by a storm resistant shelter to prevent exposure to rain, snow, snowmelt, and/or runoff. Industrial materials or activities include, but are not limited to, material handling equipment or activities, industrial machinery, raw materials, intermediate products, by-products, final products, or waste products. Material handling activities include the storage, loading and unloading, transportation, or conveyance of any raw material, intermediate product, final product or waste product. A storm resistant shelter is not required for the following industrial materials and activities:

- drums, barrels, tanks, and similar containers that are tightly sealed, provided those containers are not deteriorated and do not leak. "Sealed" means banded or otherwise secured and without operational taps or valves;
- adequately maintained vehicles used in material handling; and
- final products, other than products that would be mobilized in storm water discharges (e.g., rock salt).

A No Exposure Certification must be provided for each facility qualifying for the No Exposure exclusion. In addition, the exclusion from VPDES permitting is available on a facility-wide basis only, not for individual outfalls. If any industrial activities or materials are or will be exposed to precipitation, the facility is not eligible for the No Exposure exclusion.

By signing and submitting this No Exposure Certification form, the entity below is certifying that a condition of No Exposure exists at its facility or site, and is obligated to comply with the terms and conditions at 9 VAC 25-31-120 E (the VPDES Permit Regulation).

Please Type or Print All Information. ALL INFORMATION ON THIS FORM MUST BE PROVIDED.

1. Facility Owner Information

Name: TOWN OF MARION VA.
Mailing Address: P.O. Box 1005
City: MARION State: VA. Zip: 24354 Phone: 276-783-4113

2. Facility/Site Location Information

Facility Name: TOWN OF MARION VA. WASTEWATER TREATMENT PLANT
Address: 1580 DARTY LANE
City: MARION VA. State: VA. Zip: 24354
Latitude: 36D 49M 21S Longitude: 81D 33M 08S

3. Was the facility or site previously covered under a VPDES storm water permit? Yes ☐ No ☒

If "Yes", enter the VPDES permit number: _____

4. SIC/Activity Codes: Primary: _____ Secondary (if applicable): _____

5. Total size of facility/site associated with industrial activity: _____ acres

6. Have you paved or roofed over a formerly exposed pervious area in order to qualify for the No Exposure exclusion? Yes ☐ No ☒

If "Yes", please indicate approximately how much area was paved or roofed. Completing this question does not disqualify you for the No Exposure exclusion. However, DEQ may use this information in considering whether storm water discharges from your site are likely to have an adverse impact on water quality, in which case you could be required to obtain permit coverage.

Less than one acre ☐ One to five acres ☐ More than five acres ☐

7. Exposure Checklist

Are any of the following materials or activities exposed to precipitation, now or in the foreseeable future? (Please check either "Yes" or "No" in the appropriate box.) If you answer "Yes" to any of these questions (1) through (11), you are not eligible for the No Exposure exclusion.

| | Yes | No |
|--|--------------------------|-------------------------------------|
| 1. Using, storing or cleaning industrial machinery or equipment, and areas where residuals from using, storing or cleaning industrial machinery or equipment remain and are exposed to storm water | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 2. Materials or residuals on the ground or in storm water inlets from spill/leaks | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 3. Materials or products from past industrial activity | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 4. Material handling equipment (except adequately maintained vehicles) | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 5. Materials or products during loading/unloading or transporting activities | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 6. Materials or products stored outdoors (except final products intended for outside use [e.g., new cars] where exposure to storm water does not result in the discharge of pollutants) | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 7. Materials contained in open, deteriorated or leaking storage drums, barrels, tanks, and similar containers | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 8. Materials or products handled/stored on roads or railways owned or maintained by the discharger | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 9. Waste material (except waste in covered, non-leaking containers [e.g., dumpsters]) | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 10. Application or disposal of process wastewater (unless otherwise permitted) | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 11. Particulate matter or visible deposits of residuals from roof stacks and/or vents not otherwise regulated (i.e., under an air quality control permit) and evident in the storm water outflow | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

8. Certification Statement

I certify under penalty of law that I have read and understand the eligibility requirements for claiming a condition of no exposure and obtaining an exclusion from VPDES storm water permitting; and that there are no discharges of storm water contaminated by exposure to industrial activities or materials from the industrial facility identified in this document (except as allowed under 9 VAC 25-31-120 E 2).

I understand that I am obligated to submit a No Exposure Certification form once every five years to the Department of Environmental Quality and, if requested, to the operator of the local MS4 into which this facility discharges (where applicable). I understand that I must allow the Department, or MS4 operator where the discharge is into the local MS4, to perform inspections to confirm the condition of no exposure and to make such inspection reports publicly available upon request. I understand that I must obtain coverage under a VPDES permit prior to any point source discharge of storm water associated with industrial activity from the facility.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based upon my inquiry of the person or persons who manage the system, or those persons directly involved in gathering the information, the information submitted is to the best of my knowledge and belief true, accurate and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Print Name: John E. B. Clark, Jr.
Print Title: Town Manager
Signature: John E. B. Clark, Jr.
Date: January 3, 2010

For Department of Environmental Quality Use Only

Accepted/Not Accepted by: _____ Date: _____



TOWN OF MARION

P. O. BOX 1005
138 WEST MAIN STREET
MARION, VA 24354

Phone: 276-783-4113

Fax: 276-783-8413

www.marionva.org

COUNCIL:

| | |
|------------------------|-------------|
| David P. Helms, Mayor | |
| Jane Hale | Bill Weaver |
| Suzanne Jennings | Mel Leaman |
| James L. Gates, D.D.S. | Mark Warren |
| Ken Heath | |

January 3, 2011

Received

JAN 05 2011

DEQ-SWRO

Jason McCroskey
Va. DEQ
SWRO

The Town of Marion Wastewater Treatment Plant is submitting its application for a new license to operate, including the attached Sludge application permit. There are no significant changes to the current Sewage Sludge Disposal Plan; Addendum #1 dated July 2006. The same site plan and haul routes are to be used and are already on file with your office. The only change occurred in 2010, with the change of one field from corn to hay.

The Town will continue to operate under the current disposal plan, and will only make changes to the nutrient management plan in June of 2011 to reflect changes from corn to hay in the other approved fields.

If you have any questions, feel free to contact me.

Douglas L. Teaster
Chief Operator
Town of Marion WWTP
276-782-8495



John E. B. Clark, Jr., Town Manager
Donnic Coley, Dir. Of Water & Sewer
Mindy Dyer, Senior Citizens Director
Mark Fenyk, Counsel
Billy Hamm, Purchasing Agent

Cecil Hicks, Asst. Town Manager/Town Engineer
Michael D. Roberts, Chief of Police
Jack Perry, Director of Public Works
Dixie O. Sheets, Dir. Of Finance/Town Clerk
Samuel C. Wagner, Recreation Director



FACILITY NAME: Town of Marton

VPDES SEWAGE SLUDGE PERMIT APPLICATION FORM

VPDES PERMIT NUMBER:

VA0086304

SCREENING INFORMATION

This application is divided into sections. Sections A pertain to all applicants. The applicability of Sections B, C and D depend on your facility's sewage sludge use or disposal practices. The information provided on this page will help you determine which sections to fill out.

Received

JAN 05 2011

DEQ-SWRO

1. All applicants must complete Section A (General Information).

2. Will this facility generate sewage sludge? ☒ Yes ☐ No

Will this facility derive a material from sewage sludge? ☒ Yes ☐ No

If you answered Yes to either, complete Section B (Generation Of Sewage Sludge Or Preparation Of A Material Derived From Sewage Sludge).

3. Will this facility apply sewage sludge to the land? ☒ Yes ☐ No

Will sewage sludge from this facility be applied to the land? ☒ Yes ☐ No

If you answered No to both questions above, skip Section C.

If you answered Yes to either, answer the following three questions:

a. Will the sewage sludge from this facility meet the ceiling concentrations, pollutant concentrations, Class A pathogen reduction requirements and one of the vector attraction reduction requirements 1-8, as identified in the instructions?
☒ Yes ☐ No

b. Will sewage sludge from this facility be placed in a bag or other container for sale or give-away for application to the land? ☐ Yes ☒ No

c. Will sewage sludge from this facility be sent to another facility for treatment or blending? ☐ Yes ☒ No

If you answered No to all three, complete Section C (Land Application Of Bulk Sewage Sludge).

If you answered Yes to a, b or c, skip Section C.

4. Do you own or operate a surface disposal site? ☐ Yes ☒ No

If Yes, complete Section D (Surface Disposal).

FACILITY NAME: TOWN OF MARION

SECTION A. GENERAL INFORMATION

VPDES PERMIT NUMBER:

VA 0086304

All applicants must complete this section.

1. Facility Information.

- a. Facility name: TOWN OF MARION W.W.T.P.
b. Contact person: DOUGLAS L. TEASTER
Title: CHIEF OPERATOR
Phone: (270) 782-8495
c. Mailing address:
Street or P.O. Box: P.O. Box 1005
City or Town: MARION State: VA Zip: 24354
d. Facility location:
Street or Route #: 1580 DAISY LANE
County: Smyth
City or Town: MARION State: VA Zip: 24354
e. Is this facility a Class I sludge management facility? Yes ☒ No
f. Facility design flow rate: 3.4 mgd
g. Total population served: 8,930
h. Indicate the type of facility:
☒ Publicly owned treatment works (POTW)
☐ Privately owned treatment works
☐ Federally owned treatment works
☐ Blending or treatment operation
☐ Surface disposal site
☐ Other (describe):

2. Applicant Information. If the applicant is different from the above, provide the following:

- a. Applicant name: TOWN OF MARION
b. Mailing address: P.O. Box 1005
Street or P.O. Box:
City or Town: MARION State: VA Zip: 24354
c. Contact person: DOUGLAS L. TEASTER
Title: CHIEF OPERATOR
Phone: (270) 782-8495
d. Is the applicant the owner or operator (or both) of this facility?
☒ owner ☒ operator
e. Should correspondence regarding this permit be directed to the facility or the applicant? (Check one)
☒ facility ☐ applicant

3. Permit Information.

- a. Facility's VPDES permit number (if applicable): VA 0086304
b. List on this form or an attachment, all other federal, state or local permits or construction approvals received or applied for that regulate this facility's sewage sludge management practices:
Permit Number: _____ Type of Permit: _____

4. Indian Country. Does any generation, treatment, storage, application to land or disposal of sewage sludge from this facility occur in Indian Country? Yes ☒ No If yes, describe:

FACILITY NAME: TOWN OF MARTON

VPDES PERMIT NUMBER:

5. Topographic Map. Provide a topographic map or maps (or other appropriate maps if a topographic map is unavailable) that shows the following information. Maps should include the area one mile beyond all property boundaries of the facility: IN DEQ FILE
- Location of all sewage sludge management facilities, including locations where sewage sludge is generated, stored, treated, or disposed.
 - Location of all wells, springs, and other surface water bodies listed in public records or otherwise known to the applicant within 1/4 mile of the property boundaries.
6. Line Drawing. Provide a line drawing and/or a narrative description that identifies all sewage sludge processes that will be employed during the term of the permit including all processes used for collecting, dewatering, storing, or treating sewage sludge, the destination(s) of all liquids and solids leaving each unit, and all methods used for pathogen reduction and vector attraction reduction. IN DEQ FILE
7. Contractor Information. Are any operational or maintenance aspects of this facility related to sewage sludge generation, treatment, use or disposal the responsibility of a contractor? Yes ☒ No
If yes, provide the following for each contractor (attach additional pages if necessary).
Name:
Mailing address:
Street or P.O. Box:
City or Town: _____ State: _____ Zip: _____
Phone: () _____
Contractor's Federal, State or Local Permit Number(s) applicable to this facility's sewage sludge:

If the contractor is responsible for the use and/or disposal of the sewage sludge, provide a description of the service to be provided to the applicant and the respective obligations of the applicant and the contractor(s).

8. Pollutant Concentrations. Using the table below or a separate attachment, provide sewage sludge monitoring data for the pollutants which limits in sewage sludge have been established in 9 VAC 25-31-10 et seq. for this facility's expected use or disposal practices. All data must be based on three or more samples taken at least one month apart and must be no more than four and one-half years old.

SEE ATTACHMENT

| POLLUTANT | CONCENTRATION (mg/kg dry weight) | SAMPLE DATE | ANALYTICAL METHOD | DETECTION LEVEL FOR ANALYSIS |
|------------|-------------------------------------|----------------|----------------------|---------------------------------|
| Arsenic | | | | |
| Cadmium | | | | |
| Chromium | | | | |
| Copper | | | | |
| Lead | | | | |
| Mercury | | | | |
| Molybdenum | | | | |
| Nickel | | | | |
| Selenium | | | | |
| Zinc | | | | |

9. Certification. Read and submit the following certification statement with this application. Refer to the instructions to determine who is an officer for purposes of this certification. Indicate which parts of the application you have completed and are submitting:

- ☒ Section A (General Information)
☒ Section B (Generation of Sewage Sludge or Preparation of a Material Derived from Sewage Sludge)
☒ Section C (Land Application of Bulk Sewage Sludge)
☐ Section D (Surface Disposal)

FACILITY NAME: Town of Marion WWTP

VA 0086304
VPDES PERMIT NUMBER:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name and official title

Signature

John E. B. Clark, Jr. Date Signed

Telephone number

Upon request of the department, you must submit any other information necessary to assess sewage sludge use or disposal practices at your facility or identify appropriate permitting requirements.

FACILITY NAME: Town of MARTON W.W.T.P.

VPDES PERMIT NUMBER:

SECTION B. GENERATION OF SEWAGE SLUDGE OR PREPARATION
OF A MATERIAL DERIVED FROM SEWAGE SLUDGE

VA 0086304

Complete this section if your facility generates sewage sludge or derives a material from sewage sludge

1. Amount Generated On Site.
Total dry metric tons per 365-day period generated at your facility: 0.150 dry metric tons
2. Amount Received from Off Site. If your facility receives sewage sludge from another facility for treatment, use or disposal, provide the following information for each facility from which sewage sludge is received. If you receive sewage sludge from more than one facility, attach additional pages as necessary.
 - a. Facility name:
 - b. Contact Person:
Title:
Phone ()
 - c. Mailing address:
Street or P.O. Box:
City or Town: _____ State: _____ Zip: _____
 - d. Facility Address:
(not P.O. Box)
 - e. Total dry metric tons per 365-day period received from this facility: _____ dry metric tons
 - f. Describe, on this form or on another sheet of paper, any treatment processes known to occur at the off-site facility, including blending activities and treatment to reduce pathogens or vector attraction characteristics:
3. Treatment Provided at Your Facility.
 - a. Which class of pathogen reduction is achieved for the sewage sludge at your facility?
___ Class A ☒ Class B ___ Neither or unknown
 - b. Describe, on this form or another sheet of paper, any treatment processes used at your facility to reduce pathogens in sewage sludge: ANEROBIC DIGESTION OF SLUDGE FOR AT LEAST 15 DAYS AT 35°C
A MIN OF 2 LOG 10 REDUCTION OF FECAL COLIFORM.
 - c. Which vector attraction reduction option is met for the sewage sludge at your facility?
☒ Option 1 (Minimum 38 percent reduction in volatile solids)
___ Option 2 (Anaerobic process, with bench-scale demonstration)
___ Option 3 (Aerobic process, with bench-scale demonstration)
___ Option 4 (Specific oxygen uptake rate for aerobically digested sludge)
___ Option 5 (Aerobic processes plus raised temperature)
___ Option 6 (Raise pH to 12 and retain at 11.5)
___ Option 7 (75 percent solids with no unstabilized solids)
___ Option 8 (90 percent solids with unstabilized solids)
___ None or unknown
 - d. Describe, on this form or another sheet of paper, any treatment processes used at your facility to reduce vector attraction properties of sewage sludge: ANEROBIC DIGESTION OF SLUDGE TO
REDUCE VOLATILE SOLID CONTENT
 - e. Describe, on this form or another sheet of paper, any other sewage sludge treatment activities, including blending, not identified in a - d above: NA
4. Preparation of Sewage Sludge Meeting Ceiling and Pollutant Concentrations, Class A Pathogen Requirements and One of Vector Attraction Reduction Options 1-8 (EQ Sludge). N/A
(If sewage sludge from your facility does not meet all of these criteria, skip Question 4.)
 - a. Total dry metric tons per 365-day period of sewage sludge subject to this section that is applied to the land:
_____ dry metric tons
 - b. Is sewage sludge subject to this section placed in bags or other containers for sale or give-away?
___ Yes ___ No

FACILITY NAME: Town of MARTON WWTP

VPDES PERMIT NUMBER:

VA 0086304

5. Sale or Give-Away in a Bag or Other Container for Application to the Land.

(Complete this question if you place sewage sludge in a bag or other container for sale or give-away prior to land application. Skip this question if sewage sludge is covered in Question 4.) N/A

- a. Total dry metric tons per 365-day period of sewage sludge placed in a bag or other container at your facility for sale or give-away for application to the land: _____ dry metric tons
- b. Attach, with this application, a copy of all labels or notices that accompany the sewage sludge being sold or given away in a bag or other container for application to the land.

6. Shipment Off Site for Treatment or Blending. N/A

(Complete this question if sewage sludge from your facility is sent to another facility that provides treatment or blending. This question does not apply to sewage sludge sent directly to a land application or surface disposal site. Skip this question if the sewage sludge is covered in Questions 4 or 5. If you send sewage sludge to more than one facility, attach additional sheets as necessary.)

- a. Receiving facility name:
- b. Facility contact:
Title:
Phone: ()
- c. Mailing address:
Street or P.O. Box:
City or Town: _____ State: _____ Zip: _____
- d. Total dry metric tons per 365-day period of sewage sludge provided to receiving facility: _____ dry metric tons
- e. List, on this form or an attachment, the receiving facility's VPDES permit number as well as the numbers of all other federal, state or local permits that regulate the receiving facility's sewage sludge use or disposal practices:

Permit Number:

Type of Permit:

- f. Does the receiving facility provide additional treatment to reduce pathogens in sewage sludge from your facility? ☐ Yes ☐ No

Which class of pathogen reduction is achieved for the sewage sludge at the receiving facility?

☐ Class A ☐ Class B ☐ Neither or unknown

Describe, on this form or another sheet of paper, any treatment processes used at the receiving facility to reduce pathogens in sewage sludge:

- g. Does the receiving facility provide additional treatment to reduce vector attraction characteristics of the sewage sludge? ☐ Yes ☐ No

Which vector attraction reduction option is met for the sewage sludge at the receiving facility?

- ☐ Option 1 (Minimum 38 percent reduction in volatile solids)
- ☐ Option 2 (Anaerobic process, with bench-scale demonstration)
- ☐ Option 3 (Aerobic process, with bench-scale demonstration)
- ☐ Option 4 (Specific oxygen uptake rate for aerobically digested sludge)
- ☐ Option 5 (Aerobic processes plus raised temperature)
- ☐ Option 6 (Raise pH to 12 and retain at 11.5)
- ☐ Option 7 (75 percent solids with no unstabilized solids)
- ☐ Option 8 (90 percent solids with unstabilized solids)
- ☐ None unknown

Describe, on this form or another sheet of paper, any treatment processes used at the receiving facility to reduce vector attraction properties of sewage sludge:

- h. Does the receiving facility provide any additional treatment or blending not identified in f or g above?
☐ Yes ☐ No

If yes, describe, on this form or another sheet of paper, the treatment processes not identified in f or g above:

- i. If you answered yes to f., g or h above, attach a copy of any information you provide to the receiving facility to comply with the "notice and necessary information" requirement of 9 VAC 25-31-530.G.

FACILITY NAME: TOWN OF MARTIN W.W.T.P

VA 0086304
VPDES PERMIT NUMBER:

- j Does the receiving facility place sewage sludge from your facility in a bag or other container for sale or give-away for application to the land? ☐ Yes ☐ No
If yes, provide a copy of all labels or notices that accompany the product being sold or given away.
- k Will the sewage sludge be transported to the receiving facility in a truck-mounted watertight tank normally used for such purposes? ☐ Yes ☐ No. If no, provide description and specification on the vehicle used to transport the sewage sludge to the receiving facility.
Show the haul route(s) on a location map or briefly describe the haul route below and indicate the days of the week and the times of the day sewage sludge will be transported.

7. Land Application of Bulk Sewage Sludge.

(Complete Question 7.a if sewage sludge from your facility is applied to the land, unless the sewage sludge is covered in Questions 4, 5 or 6; complete Question 7.b, c & d only if you are responsible for land application of sewage sludge.)

- a. Total dry metric tons per 365-day period of sewage sludge applied to all land application sites 150 dry metric tons
- b. Do you identify all land application sites in Section C of this application? ☒ Yes ☐ No
If no, submit a copy of the Land Application Plan (LAP) with this application (LAP should be prepared in accordance with the instructions).
- c. Are any land application sites located in States other than Virginia? ☐ Yes ☒ No
If yes, describe, on this form or on another sheet of paper, how you notify the permitting authority for the States where the land application sites are located. Provide a copy of the notification.
- d. Attach a copy of any information you provide to the owner or lease holder of the land application sites to comply with the "notice and necessary" information requirement of 9 VAC 25-31-530 F and/or H (Examples may be obtained in Appendix IV).

8. Surface Disposal. N/A

(Complete Question 8 if sewage sludge from your facility is placed on a surface disposal site.)

- a. Total dry metric tons per 365-day period of sewage sludge from your facility placed on all surface disposal sites: _____ dry metric tons
- b. Do you own or operate all surface disposal sites to which you send sewage sludge for disposal?
☐ Yes ☐ No
If no, answer questions c - g for each surface disposal site that you do not own or operate. If you send sewage sludge to more than one surface disposal site, attach additional pages as necessary.
- c. Site name or number:
- d. Contact person:
Title:
Phone: ()
Contact is: ☐ Site Owner ☐ Site operator
- e. Mailing address.
Street or P.O. Box:
City or Town: _____ State: _____ Zip: _____
- f. Total dry metric tons per 365-day period of sewage sludge from your facility placed on this surface disposal site: _____ dry metric tons
- g. List, on this form or an attachment, the surface disposal site VPDES permit number as well as the numbers of all other federal, state or local permits that regulate the sewage sludge use or disposal practices at the surface disposal site:
Permit Number: _____ Type of Permit: _____

9. Incineration. N/A

(Complete Question 9 if sewage sludge from your facility is fired in a sewage sludge incinerator.)

- a. Total dry metric tons per 365-day period of sewage sludge from your facility fired in a sewage sludge incinerator: _____ dry metric tons

FACILITY NAME: TOWN OF MARTIN WWTP

VPDES PERMIT NUMBER:

- b. Do you own or operate all sewage sludge incinerators in which sewage sludge from your facility is fired?

☐ Yes ☐ No

If no, answer questions c - g for each sewage sludge incinerator that you do not own or operate. If you send sewage sludge to more than one sewage sludge incinerator, attach additional pages as necessary.

- c. Incinerator name or number:

- d. Contact person:

Title:

Phone: ()

Contact is: ☐ Incinerator Owner ☐ Incinerator Operator

- e. Mailing address.

Street or P.O. Box:

City or Town: _____ State: _____ Zip:

- f. Total dry metric tons per 365-day period of sewage sludge from your facility fired in this sewage sludge incinerator: _____ dry metric tons

- g. List on this form or an attachment the numbers of all other federal, state or local permits that regulate the firing of sewage sludge at this incinerator:

Permit Number:

Type of Permit:

10. Disposal in a Municipal Solid Waste Landfill. NA

(Complete Question 10 if sewage sludge from your facility is placed on a municipal solid waste landfill. Provide the following information for each municipal solid waste landfill on which sewage sludge from your facility is placed. If sewage sludge is placed on more than one municipal solid waste landfill, attach additional pages as necessary.)

- a. Landfill name:

- b. Contact person:

Title:

Phone: ()

Contact is: ☐ Landfill Owner ☐ Landfill Operator

- c. Mailing address.

Street or P.O. Box:

City or Town: _____ State: _____ Zip:

- d. Landfill location.

Street or Route #:

County:

City or Town: _____ State: _____ Zip:

- e. Total dry metric tons per 365-day period of sewage sludge placed in this municipal solid waste landfill: _____ dry metric tons

- f. List, on this form or an attachment, the numbers of all federal, state or local permits that regulate the operation of this municipal solid waste landfill:

Permit Number:

Type of Permit:

- g. Does sewage sludge meet applicable requirements in the Virginia Solid Waste Management Regulation, 9 VAC 20-80-10 et seq., concerning the quality of materials disposed in a municipal solid waste landfill?

☐ Yes ☐ No

- h. Does the municipal solid waste landfill comply with all applicable criteria set forth in the Virginia Solid Waste Management Regulation, 9 VAC 20-80-10 et seq.? ☐ Yes ☐ No

- i. Will the vehicle bed or other container used to transport sewage sludge to the municipal solid waste landfill be watertight and covered? ☐ Yes ☐ No

Show the haul route(s) on a location map or briefly describe the route below and indicate the days of the week and time of the day sewage sludge will be transported.

FACILITY NAME: Town of Marion WWTP

VA 0086304
VPDES PERMIT NUMBER:

SECTION C. LAND APPLICATION OF BULK SEWAGE SLUDGE

Complete this section for sewage sludge that is land applied unless any of the following conditions apply:

The sewage sludge meets the Table 1 ceiling concentrations, the Table 3 pollutant concentrations, Class A pathogen requirements and one of the vector attraction reduction options 1-8 (fill out B.4 instead) (EQ Sludge); or

The sewage sludge is sold or given away in a bag or other container for application to the land (fill out B.5 instead); or

You provide the sewage sludge to another facility for treatment or blending (fill out B.6 instead).

Complete Section C for every site on which the sewage sludge that you reported in B.7 is land applied.

1. Identification of Land Application Site.

a. Site name or number: SCOTT WADDIE FARM

b. Site location (Complete i and ii)

i. Street or Route#: 326 LONG HOLLOW ROAD

County: Smyth

City or Town: SALTVILLE State: VA. Zip: 24370

ii. Latitude: _____ Longitude: _____

Method of latitude/longitude determination

_____ USGS map _____ Filed survey _____ Other

c. Topographic map. Provide a topographic map (or other appropriate map if a topographic map is unavailable) that shows the site location.

2. Owner Information.

a. Are you the owner of this land application site? Yes ☒ No

b. If no, provide the following information about the owner:

Name: SCOTT WADDIE

Street or P.O. Box: 326 LONG HOLLOW ROAD

City or Town: SALTVILLE State: VA. Zip: 24370

Phone: (276) 782-6191

3. Applier Information:

a. Are you the person who applies, or who is responsible for application of, sewage sludge to this land application site? Yes ☒ No

b. If no, provide the following information for the person who applies the sewage sludge:

Name: SCOTT WADDIE

Street or P.O. Box: 326 LONG HOLLOW ROAD

City or Town: SALTVILLE State: VA. Zip: 24370

Phone: (276) 782-6191

c. List, on this form or an attachment, the numbers of all federal, state or local permits that regulate the person who applies sewage sludge to this land application site:

Permit Number: _____ Type of Permit: _____

4. Site Type. Identify the type of land application site from among the following:

☒ Agricultural land _____ Reclamation site _____ Forest

_____ Public contact site _____ Other. Describe

5. Vector Attraction Reduction.

Are any vector attraction reduction requirements met when sewage sludge is applied to the land application site?

Yes ☒ No If yes, answer a and b.

a. Indicate which vector attraction reduction option is met:

_____ Option 9 (Injection below land surface)

_____ Option 10 (Incorporation into soil within 6 hours)

b. Describe, on this form or on another sheet of paper, any treatment processes used at the land application site to reduce the vector attraction properties of sewage sludge:

FACILITY NAME: Town of MARTON WWTP

VPDES PERMIT NUMBER:

VA 0086304

6. Cumulative Loadings and Remaining Allotments.

(Complete Question 6 only if the sewage sludge applied to this site since July 20, 1993 is subject to the cumulative pollutant loading rates (CPLRs) - see instructions.)

- a. Have you contacted DEQ or the permitting authority in the state where the sewage sludge subject to the CPLRs will be applied to ascertain whether bulk sewage sludge subject to the CPLRs has been applied to this site since July 20, 1993? Yes ☒ No

If no, sewage sludge subject to the CPLRs may not be applied to this site.

If yes, provide the following information:

Permitting authority:

Contact person:

Phone: ()

- b. Based upon this inquiry, has bulk sewage sludge subject to the CPLRs been applied to this site since July 20, 1993? Yes No If no, skip the rest of Question 6. If yes, answer questions c - e.

- c. Site size, in hectares: _____ (one hectare = 2.471 acres)

- d. Provide the following information for every facility other than yours that is sending or has sent sewage sludge subject to the CPLRs to this site since July 20, 1993. If more than one such facility sends sewage sludge to this site, attach additional pages as necessary.

Facility name:

Facility contact:

Title:

Phone: ()

Mailing address.

Street or P.O. Box:

City or Town: _____ State: _____ Zip: _____

- e. Provide the total loading and allotment remaining, in kg/hectare, for each of the following pollutants:

| | <u>Cumulative loading</u> | <u>Allotment remaining</u> |
|----------|---------------------------|----------------------------|
| Arsenic | _____ | _____ |
| Cadmium | _____ | _____ |
| Copper | _____ | _____ |
| Lead | _____ | _____ |
| Mercury | _____ | _____ |
| Nickel | _____ | _____ |
| Selenium | _____ | _____ |
| Zinc | _____ | _____ |

Complete Questions 7-12 below only if you apply sewage sludge, or you are responsible for land application of sewage sludge. Information required by these questions may be prepared as attachments to this form. Skip the following questions if you contract land application to someone else (as indicated under Section A.7) who is responsible for the operation.

7. Sludge Characterization. Use the table below or a separate attachment, provide at least one analysis for each parameter. SEE ATTACHMENT

PCBs (mg/kg)
pH (S. U.)
Percent Solids (%)
Ammonium Nitrogen (mg/kg)
Nitrate Nitrogen (mg/kg)
Total Kjeldahl Nitrogen (mg/kg)
Total Phosphorus (mg/kg)
Total Potassium (mg/kg)
Alkalinity as CaCO₃ (mg/kg)

* Lime treated sludge (10% or more lime by dry weight) should be analyzed for percent CaCO₃.

FACILITY NAME: TOWN OF MARTON WWTP

VPDES PERMIT NUMBER:

8.

Storage Requirements.

NO ON SITE STORAGE

VA 0086304

Existing and proposed sludge storage facilities must provide an estimated annual sludge balance on a monthly basis incorporating such factors as storage capacity, sludge production and land application schedule. Include pertinent calculations justifying storage requirements.

Proposed sludge storage facilities must also provide the following information:

a. A sludge storage site layout on a 7.5 minute topographic quadrangle or other appropriate scaled map to show the following topographic features of the surrounding landscape to a distance of 0.25 mile. Clearly mark the property line.

- 1) Water wells, abandoned or operating
- 2) Surface waters
- 3) Springs
- 4) Public water supply(s)
- 5) Sinkholes
- 6) Underground and/or surface mines
- 7) Mine pool (or other) surface water discharge points
- 8) Mining spoil piles and mine dumps
- 9) Quarry(s)
- 10) Sand and gravel pits
- 11) Gas and oil wells
- 12) Diversion ditch(s)
- 13) Agricultural drainage ditch(s)
- 14) Occupied dwellings, including industrial and commercial establishments
- 15) Landfills or dumps
- 16) Other unlined impoundments
- 17) Septic tanks and drainfields
- 18) Injection wells
- 19) Rock outcrops

b. A topographic map of sufficient detail to clearly show the following information:

- 1) Maximum and minimum percent slopes
- 2) Depressions on the site that may collect water
- 3) Drainageways that may attribute to rainfall run-on to or runoff from this site
- 4) Portions of the site (if any) which are located with the 100-year floodplain and how the storage facility will be protected from flooding

c. Data and specifications for the storage facility lining material.

d. Plan and cross-sectional views of the storage facility.

e. Depth from the bottom of the storage facility to the seasonal high water table and separation distance to the permanent water table.

9. Land Area Requirements. Provide calculations justifying the land area requirements for land application of sewage sludge taking into consideration average soil productivity group, crop(s) to be grown and most limiting factor(s) of the sewage sludge, specifically Plant Available Nitrogen (PAN), Calcium Carbonate Equivalence (CCE), and metal loadings (CPLR sewage sludge only), where applicable. Relate PAN, CCE, and metal loadings to demonstrate the most limiting factor for land application.

NUTRIENT MANAGEMENT PLAN IN DEP FILE

10. Landowner Agreement Forms. Provide a properly completed Sewage Sludge Application Agreement Form (attached) for each landowner if sewage sludge is to be applied onto land not owned by the applicant.

ATTACHED

11. Ground Water Monitoring.

Are any ground water monitoring data available for this land application site? ☐ Yes ☐ No

If yes, submit the ground water monitoring data with this permit application. Also submit a written description of the well locations, approximate depth to ground water, and the ground water monitoring procedures used to obtain these data.

12. Land Application Site Information.

(Complete Items a-d for sites receiving infrequent application - land application of sewage sludge up to the agronomic rate at a frequency of once in a 3 year period; complete Items a-h for sites receiving frequent application - land application of sewage sludge in excess of 70% the agronomic rate at a frequency greater than once in a 3 year period)

FACILITY NAME: TOWN OF MARTIN WWTP

VA 0086304

VPDES PERMIT NUMBER:

SECTION C. LAND APPLICATION OF BULK SEWAGE SLUDGE

Complete this section for sewage sludge that is land applied unless any of the following conditions apply:

The sewage sludge meets the Table 1 ceiling concentrations, the Table 3 pollutant concentrations, Class A pathogen requirements and one of the vector attraction reduction options 1-8 (fill out B.4 instead) (EQ Sludge); or

The sewage sludge is sold or given away in a bag or other container for application to the land (fill out B.5 instead); or

You provide the sewage sludge to another facility for treatment or blending (fill out B.6 instead).

Complete Section C for every site on which the sewage sludge that you reported in B.7 is land applied.

* SITE NOT USED SINCE 2005

1. Identification of Land Application Site.

a. Site name or number: WILLIAM MEEK FARM

b. Site location (Complete i and ii)

i. Street or Route#: 110 MEEK LANE

County: Smyth

City or Town: SUGAR GROVE State: VA Zip: 24375

ii. Latitude: _____ Longitude: _____

Method of latitude/longitude determination

_____ USGS map _____ Filed survey _____ Other

c. Topographic map. Provide a topographic map (or other appropriate map if a topographic map is unavailable) that shows the site location.

2. Owner Information.

a. Are you the owner of this land application site? Yes ☒ No

b. If no, provide the following information about the owner:

Name: WILLIAM MEEK

Street or P.O. Box: 110 MEEK LANE

City or Town: SUGAR GROVE State: VA Zip: 24375

Phone: (270) 677-3739

3. Applier Information:

a. Are you the person who applies, or who is responsible for application of, sewage sludge to this land application site? Yes ☒ No

b. If no, provide the following information for the person who applies the sewage sludge:

Name: WILLIAM MEEK

Street or P.O. Box: 110 MEEK LANE

City or Town: SUGAR GROVE State: VA Zip: 24375

Phone: (270) 677-3739

c. List, on this form or an attachment, the numbers of all federal, state or local permits that regulate the person who applies sewage sludge to this land application site:

Permit Number: _____ Type of Permit: _____

4. Site Type. Identify the type of land application site from among the following:

☒ Agricultural land _____ Reclamation site _____ Forest

_____ Public contact site _____ Other. Describe

5. Vector Attraction Reduction.

Are any vector attraction reduction requirements met when sewage sludge is applied to the land application site?

Yes ☒ No If yes, answer a and b.

a. Indicate which vector attraction reduction option is met:

_____ Option 9 (Injection below land surface)

_____ Option 10 (Incorporation into soil within 6 hours)

b. Describe, on this form or on another sheet of paper, any treatment processes used at the land application site to reduce the vector attraction properties of sewage sludge:

FACILITY NAME: Town of MARTON WWTP

VPDES PERMIT NUMBER:

VA 0086304

6. Cumulative Loadings and Remaining Allotments.

(Complete Question 6 only if the sewage sludge applied to this site since July 20, 1993 is subject to the cumulative pollutant loading rates (CPLRs) - see instructions.)

- a. Have you contacted DEQ or the permitting authority in the state where the sewage sludge subject to the CPLRs will be applied to ascertain whether bulk sewage sludge subject to the CPLRs has been applied to this site since July 20, 1993? Yes ☒ No

If no, sewage sludge subject to the CPLRs may not be applied to this site.

If yes, provide the following information:

Permitting authority:

Contact person:

Phone: ()

- b. Based upon this inquiry, has bulk sewage sludge subject to the CPLRs been applied to this site since July 20, 1993? Yes No If no, skip the rest of Question 6. If yes, answer questions c - e.

- c. Site size, in hectares: _____ (one hectare = 2.471 acres)

- d. Provide the following information for every facility other than yours that is sending or has sent sewage sludge subject to the CPLRs to this site since July 20, 1993. If more than one such facility sends sewage sludge to this site, attach additional pages as necessary.

Facility name:

Facility contact:

Title:

Phone: ()

Mailing address:

Street or P.O. Box:

City or Town: _____ State: _____ Zip: _____

- e. Provide the total loading and allotment remaining, in kg/hectare, for each of the following pollutants:

| | <u>Cumulative loading</u> | <u>Allotment remaining</u> |
|----------|---------------------------|----------------------------|
| Arsenic | _____ | _____ |
| Cadmium | _____ | _____ |
| Copper | _____ | _____ |
| Lead | _____ | _____ |
| Mercury | _____ | _____ |
| Nickel | _____ | _____ |
| Selenium | _____ | _____ |
| Zinc | _____ | _____ |

Complete Questions 7-12 below only if you apply sewage sludge, or you are responsible for land application of sewage sludge. Information required by these questions may be prepared as attachments to this form. Skip the following questions if you contract land application to someone else (as indicated under Section A.7) who is responsible for the operation.

7. Sludge Characterization. Use the table below or a separate attachment, provide at least one analysis for each parameter. SEE ATTACHMENT

PCBs (mg/kg)
pH (S. U.)
Percent Solids (%)
Ammonium Nitrogen (mg/kg)
Nitrate Nitrogen (mg/kg)
Total Kjeldahl Nitrogen (mg/kg)
Total Phosphorus (mg/kg)
Total Potassium (mg/kg)
Alkalinity as CaCO₃ (mg/kg)

* Lime treated sludge (10% or more lime by dry weight) should be analyzed for percent CaCO₃.

FACILITY NAME: TOWN OF MARTON WWTP

VPDES PERMIT NUMBER:

8. Storage Requirements. NO ON SITE STORAGE

VA 0086304

Existing and proposed sludge storage facilities must provide an estimated annual sludge balance on a monthly basis incorporating such factors as storage capacity, sludge production and land application schedule. Include pertinent calculations justifying storage requirements.

Proposed sludge storage facilities must also provide the following information:

a. A sludge storage site layout on a 7.5 minute topographic quadrangle or other appropriate scaled map to show the following topographic features of the surrounding landscape to a distance of 0.25 mile. Clearly mark the property line.

- 1) Water wells, abandoned or operating
- 2) Surface waters
- 3) Springs
- 4) Public water supply(s)
- 5) Sinkholes
- 6) Underground and/or surface mines
- 7) Mine pool (or other) surface water discharge points
- 8) Mining spoil piles and mine dumps
- 9) Quarry(s)
- 10) Sand and gravel pits
- 11) Gas and oil wells
- 12) Diversion ditch(s)
- 13) Agricultural drainage ditch(s)
- 14) Occupied dwellings, including industrial and commercial establishments
- 15) Landfills or dumps
- 16) Other unlined impoundments
- 17) Septic tanks and drainfields
- 18) Injection wells
- 19) Rock outcrops

b. A topographic map of sufficient detail to clearly show the following information:

- 1) Maximum and minimum percent slopes
- 2) Depressions on the site that may collect water
- 3) Drainageways that may attribute to rainfall run-on to or runoff from this site
- 4) Portions of the site (if any) which are located with the 100-year floodplain and how the storage facility will be protected from flooding

c. Data and specifications for the storage facility lining material.

d. Plan and cross-sectional views of the storage facility.

e. Depth from the bottom of the storage facility to the seasonal high water table and separation distance to the permanent water table.

9. Land Area Requirements. Provide calculations justifying the land area requirements for land application of sewage sludge taking into consideration average soil productivity group, crop(s) to be grown and most limiting factor(s) of the sewage sludge, specifically Plant Available Nitrogen (PAN), Calcium Carbonate Equivalence (CCE), and metal loadings (CPLR sewage sludge only), where applicable. Relate PAN, CCE, and metal loadings to demonstrate the most limiting factor for land application.

NUTRIENT MANAGEMENT PLAN IN DEP FILE

10. Landowner Agreement Forms. Provide a properly completed Sewage Sludge Application Agreement Form (attached) for each landowner if sewage sludge is to be applied onto land not owned by the applicant.

ATTACHED

11. Ground Water Monitoring.

Are any ground water monitoring data available for this land application site? Yes No

If yes, submit the ground water monitoring data with this permit application. Also submit a written description of the well locations, approximate depth to ground water, and the ground water monitoring procedures used to obtain these data.

12. Land Application Site Information.

(Complete Items a-d for sites receiving infrequent application - land application of sewage sludge up to the agronomic rate at a frequency of once in a 3 year period; complete Items a-h for sites receiving frequent application - land application of sewage sludge in excess of 70% the agronomic rate at a frequency greater than once in a 3 year period)

FACILITY NAME: TOWN OF MARTIN WWTP

VA0086304

VPDES PERMIT NUMBER:

- a. Provide a general location map for each county which clearly indicates the location of all the land application sites. SEE ATTACHMENTS IN DEQ FILE
- b. For each land application site provide a site plan of sufficient detail to clearly show the concerned landscape features and associated buffer zones (See instructions). Provide a legend for each landscape feature and the net acreage for each field taking into account the proposed buffer zones.
- c. In order to ensure that land application of bulk sewage sludge will not impact federally listed threatened or endangered species or federally designated critical habitat, the applicant must notify the field office of the U. S. Department of the Interior, Fish and Wildlife Service (FWS), by a letter, the proposed land application activities with the identification of the land application sites. The address and phone number of FWS are provided below.

U. S. Fish and Wildlife Service
Virginia Field Office
6669 Short Lane
Gloucester, VA 23061
TEL: (804)693-6694

Provide a copy of the notification letter with this application form.

- d. Provide a soil survey map, preferably photographically based, with the field boundaries clearly marked. (A USDA-SCS soil survey map should be provided, if available.)
Provide a detailed legend for each soil survey map which uses accepted USDA-SCS descriptions of the typifying pedon for each soil series (soil type). Complex associations may be described as a range of characteristics. Soil descriptions shall include as a minimum the following information.
 - 1) Soil symbol
 - 2) Soil series, textural phase and slope range
 - 3) Depth to seasonal high water table
 - 4) Depth to bedrock
 - 5) Estimated soil productivity group (for the proposed crop rotation)

Item e - h are required for sites receiving frequent application of sewage sludge

NA

- e. In order to verify the information provided in item d, characterize the soil at each land application site. Representative soil borings or test pits to a depth of five feet or to bedrock if shallower, are to be coordinated for the typifying pedon of each soil series (soil type). Soil descriptions shall include as a minimum the following information:
 - 1). Soil symbol
 - 2). Soil series, textural phase and slope range
 - 3). Depth to seasonal high water table
 - 4). Depth to bedrock
 - 5). Estimated soil productivity group (for the proposed crop rotation)

FACILITY NAME: TOWN OF MARTON W.W.T.P.

VPDES PERMIT NUMBER:

- f. Collect and analyze soil samples from each field, weighted to best represent each of the soil borings performed for Item e. Using the table below or a separate attachment, provide at least one analysis per sample for each of the following parameters.

Soil Organic Matter (%)
 Soil pH (std. units)
 Cation Exchange Capacity (meq/100g)
 Total Nitrogen (ppm)
 Organic Nitrogen (ppm)
 Ammonia Nitrogen (ppm)
 Nitrate Nitrogen (ppm)
 Available Phosphorus (ppm)
 Exchangeable Potassium (mg/100g)
 Exchangeable Sodium (mg/100g)
 Exchangeable Calcium (mg/100g)
 Exchangeable Magnesium (mg/100g)
 Arsenic (ppm)
 Cadmium (ppm)
 Copper (ppm)
 Lead (ppm)
 Mercury (ppm)
 Molybdenum (ppm)
 Nickel (ppm)
 Selenium (ppm)
 Zinc (ppm)
 Manganese (ppm)
 Particle Size Analysis or
 USDA Textural Estimate (%)

- g. Relate the crop nutrient needs to anticipated yields, soil productivity rating and the various fertilizer or nutrient sources from sludge and chemical fertilizers. Describe any specialized agronomic management practices which may be required as a result of high soil pH. If the sludge is expected to possess an unusually high CCE or other unusual properties, provide a description of any plant tissue testing, supplemental fertilization or intensive agronomic management practices which may be necessary.
- h. Using a narrative format and referencing any related charts, describe the proposed cropping system. Show how the crop rotation and management will be coordinated with the design of the land application system. Include any supplemental fertilization program, soil testing and the coordination of tillage practices, planting and harvesting schedules and timing of land application.



TOWN OF MARION

P. O. BOX 1005
138 WEST MAIN STREET
MARION, VA 24354

Phone: 276-783-4113

Fax: 276-783-8413

www.marionva.org

COUNCIL:

David P. Helms, Mayor
Dr. James L. Gates, Vice Mayor

Jane Hale
Suzanne Jennings
Mark Warren

Received

FEB 08 2011

Bill Weaver
Mark Hamm
W. Eugene Hendrick
SWRO

SLUDGE LEASE APPLICATION AGREEMENT

This biosolids sludge application agreement is made on May 24, 2010 between Scott Waddle, referred to here as "landowner", and the Town of Marion, referred to here as "owner". This agreement will be for a three year period beginning June 1, 2010 and ending May 31, 2013. The owner will pay the landowner \$3,500 each year to secure this agreement. This agreement may be renewed at term and payment agreeable to both parties. This agreement will be recorded in the Smyth County Clerk of the Circuit Court's Office.

Landowner is the owner of agricultural land shown on the map attached as Exhibit A and designated there as Site #1-Waddle Site (landowner's land). Owner agrees to apply and landowner agrees to comply with certain permit requirements following application of biosolids on landowner's land in amounts and in a manner authorized by permit number VPDES#0086304 which is held by the owner.

Landowner acknowledges that the appropriate application of biosolids will be more beneficial in providing fertilizer and soil conditioning to his property. Moreover, landowner acknowledges that he has been expressly advised that, in order to protect public health:

1. Public access to landowner's land upon which biosolids has been applied should be controlled for at least 30 days following any application of biosolids and no biosolids amended soil shall be excavated or removed from the site during this same period of time unless adequate provisions are made to prevent public exposure to soil, dusts or aerosols.
2. Food crops with harvested parts that touch the biosolids/soil mixture and are totally above the land surface shall not be harvested for 14 months after the application of biosolids. Food crops with harvested parts below the surface of the land shall not be harvested for 20 months after the application of biosolids when the biosolids remain on the land surface for a time period of four (4) or more months prior to incorporation into the soil, or 38 months when the biosolids remain on the land surface for a time period of less than four (4) months prior to incorporation. Other food crops, feed crops and fiber crops shall not be harvested for 30 days after the application of biosolids.
3. Following biosolids application to pasture or hayland sites, meat-producing livestock should not be grazed or fed chopped foliage for 30 days and lactating dairy animals should be similarly restricted for a minimum of 60 days. Other animals should be restricted from grazing for 30 days.



John E. B. Clark, Jr., Town Manager
Donnie Coley, Dir. Of Water & Sewer
Mindy Dyer, Senior Citizens Dir.
Mark Fenyk, Counsel
Billy Hamm, Purchasing Agent
Ken Heath, Downtown / Dir. Of Comm. & Econ. Dev.

Cecil Hicks, Asst. Town Manager/Town Engineer
Michael D. Roberts, Chief of Police
Jack Perry, Dir. Of Public Works
Dixie O. Sheets, Dir. Of Finance/Town Clerk
Samuel C. Wagner, Dir. Of Recreation



4. Supplemental commercial fertilizer or manure applications should be coordinated with the biosolids applications such that the total crop needs for nutrients are not exceeded as identified on the nutrient balance sheet or the nutrient management plan approved by the Virginia Department of Conservation and Recreation to be supplied to the landowner by the owner at the time of application of biosolids to a specific permitted site.
5. Tobacco, because it has been shown to accumulate cadmium, should not be grown on landowner's land for 3 years following the application of biosolids borne cadmium equal to or exceeding 0.45 pounds/acre (0.5 kilograms/hectare).
6. Turf grown on land where biosolids are applied shall not be harvested for one year after application of biosolids when the harvested turf is placed on either land with a high potential for public exposure or a lawn, unless otherwise specified by the permitting authority.

Owner agrees to notify landowner or landowner designee of his proposed schedule for biosolids application and specifically prior to any particular application to landowner's land.

LANDOWNER:

By: Scott Waddle

Mailing Address:

Scott Waddle

326 Long Hollow Road

Saltville, VA 24370

OWNER:

By: John E. B. Clark, Jr.

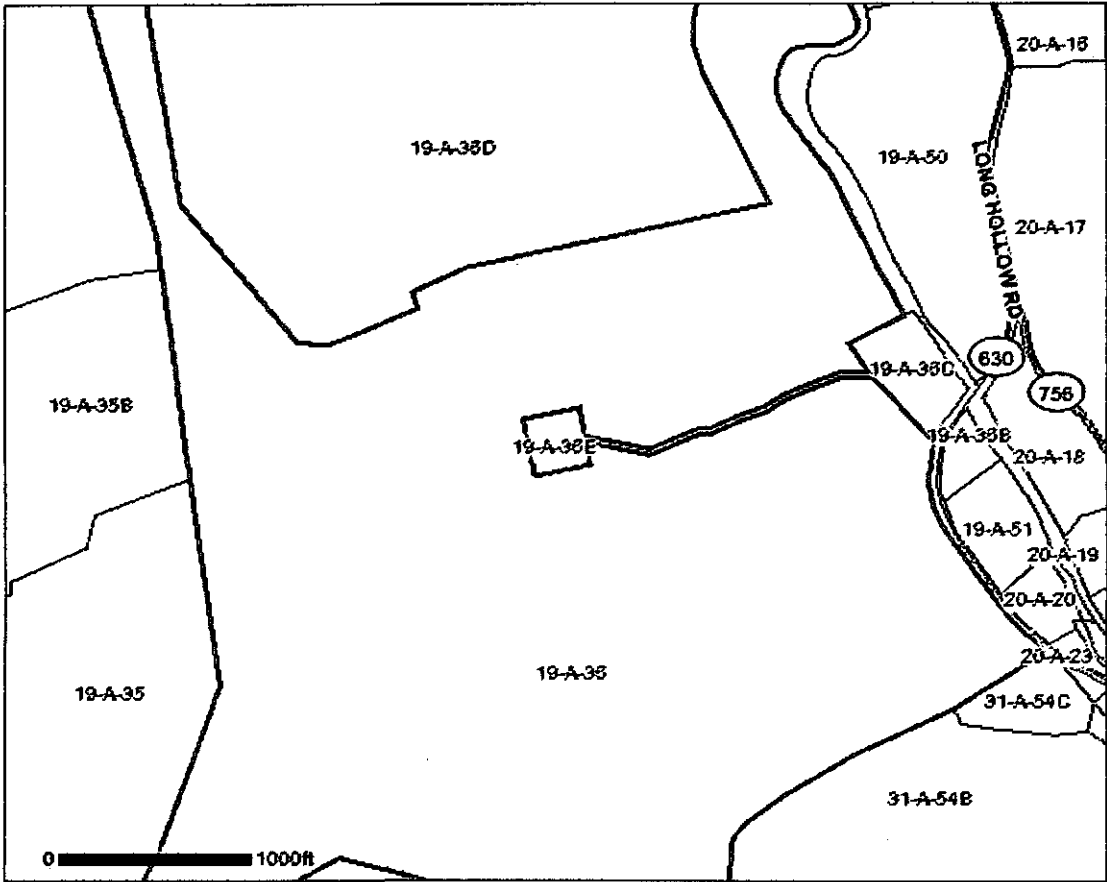
Mailing Address:

Town of Marion

P.O. Box 1005

Marion, VA 24354

Smyth County, VA



DISCLAIMER: The information contained on this page is NOT to be construed or used as a "legal description". Map information is believed to be accurate but accuracy is not guaranteed.

Parcels

Tax ID: 19-A-36
Owner Name: WADDLE JEFFREY SCOTT
Owner Address: 326 LONG HOLLOW RD
City, State: SALTVILLE VA
Zip: 24370

Acres: 426.88
Description 1: RIVER
Description 2:
Deed Book: 575
Deed Page: 1

Land Value: 782800
Land Use: 298346
Improvement Value: 29000
Sale Date: 20010821
Sale Amount: 660000

Other Attributes

at point 10587609, 3511238

Towns:
None

Zoning:
Name: Agricultural (A)

Received

FEB 08 2011

DEQ-SWRO



EMI
PROFESSIONAL SERVICES

SAMPLE LOG SHEET & CHAIN OF CUSTODY

CUSTOMER INFORMATION: Shaded Areas • LAB INFORMATION: White Areas

ENVIRONMENTAL MONITORING, INCORPORATED

ENVIRONMENTAL CONSULTANTS & ANALYTICAL LABORATORIES
P.O. Box 1190 • Norton, Virginia 24273 • 276-679-6544

COO No.:
DATE RECEIVED LAB:

LAB USE ONLY

*Required Information:

*COLLECTED BY (print)

COLLECTOR(S) SIGNATURE(S)

TURN-AROUND (circle): 2 Day (Working Days) 3 Day (Working Days) 5 Day (Working Days) 10 Day (Working Days) Regular (15 Working Days)

Additional Cost May Apply - Any TAT Not Specified Will Be Regular

*SITE ID:

CLIENT PROJ. NO.

EMI PROJECT MANAGER

Special Instructions / QC Requirements & Comments

*EMI PROJECT NO.: 470.6

EMI SAMPLE #

CUSTOMER SAMPLE IDENTIFICATION

DATE COLLECTED

TIME COLLECTED

SAMPLE No. & MATRIX (GMS)

Cool > 6°C

HNO₃

HCl

H₂SO₄

Na OH

Other:

*PRESERVATIVE USED:

Check Shaded Area for Each Parameter

Requested on Each Sample

White Area Lab Use Only

REMARKS

Preservation Checked By

Date:

Purchase Order No.

SAMPLES WILL BE DISPOSED OF IN ACCORDANCE WITH EMI'S TERMS & CONDITIONS OR RETURNED TO CLIENT OR Archive for months

STATE/ZIP

PHONE ()

FAX ()

BILLING ADDRESS

CITY

NAME

Report to be sent (if different than customer information):

ADDRESS:

CITY:

STATE/ZIP

FAX ()

ANOMALY REPORT REQUIRED:

HAZARD INFORMATION: (circle) Non Hazard Flammable Skin Irritant Poison B Unknown

Relinquished by (sign)

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ENVIRONMENTAL MONITORING, INCORPORATED

ENVIRONMENTAL CONSULTANTS ▲ ANALYTICAL LABORATORIES

P.O. BOX 1190 ▲ NORTON, VIRGINIA 24273 ▲ 276/679-6544

Certificate of Analysis

Page: 1 of 1

Client Name: TOWN OF MARION

Address: P.O. BOX 1005

MARION, VA

24354

Report Date: 11/09/10

Lab Sample No.: **1043780**

Client No.: 470

EMI Project No.: 6

Sample Identification: DRYING BED SLUDGE

Date Collected: 06/15/10

Time Collected: 1200

Sample Matrix: NAQ

Collected By: CLIENT

Site Description:

| Parameter | Sample Result | ***Results Reported as Received Unless Otherwise Stated*** | | | | Date Analyzed | Time Analyzed | Analyst |
|------------------------------------|---------------|--|--------|-------|-----------------|---------------|---------------|---------|
| | | Units | MDL | RL | Method | | | |
| Alkalinity | 2700 | mg/kg | 20.0 | 20.0 | EPA 310.1 | 6/23/2010 | 853 | JLV |
| Chloride, Total | 57.9 | mg/kg | 0.152 | 1.00 | 300.0 | 6/30/2010 | 2057 | AAB |
| Nitrate | BDL | mg/kg - N | 4.00 | | EPA 353.3-354.1 | 6/22/2010 | 1345 | TAY |
| pH | 7.00 | STD | | | SW846-9045 | 6/22/2010 | 1326 | JLV |
| Phosphorus, Total | 16014 | mg/kg | 500 | | EPA 365.3 | 6/23/2010 | 1230 | NCC |
| Sulfur, Percent | 69.0 | % | 1.00 | | ASTM D2974-87 | 6/23/2010 | 957 | JLW |
| Total Moisture | 31.0 | % | 1.00 | | ASTM D2974-87 | 6/21/2010 | 1055 | JLV |
| Coliform, Fecal (Dry Weight Basis) | 35100 | MPN/g | 2.00 | 2.00 | SM, 9221E | 6/15/2010 | 1430 | RSV |
| Coliform, Total (Dry Weight Basis) | 234200 | MPN/g | 2.00 | | 9221B | 6/15/2010 | 1430 | RSV |
| Arsenic, Total | 0.980 J | mg/kg | 0.210 | 3.00 | SW846-6010B | 6/30/2010 | 1057 | DME |
| Cadmium, Total | 1.81 J | mg/kg | 0.050 | 3.00 | SW846-6010B | 6/30/2010 | 1057 | DME |
| Chromium, Total | 30.2 | mg/kg | 0.340 | 3.00 | SW846-6010B | 6/30/2010 | 1057 | DME |
| Copper, Total | 332 | mg/kg | 0.060 | 3.00 | SW846-6010B | 6/30/2010 | 1057 | DME |
| Lead, Total | 26.6 | mg/kg | 0.280 | 3.00 | SW846-6010B | 6/30/2010 | 1057 | DME |
| Magnesium, Total | 1918 | mg/kg | 0.540 | 10.0 | SW846-6010B | 6/30/2010 | 1057 | DME |
| Manganese, Total | 138 | mg/kg | 0.270 | 5.00 | SW846-6010B | 6/30/2010 | 1436 | DME |
| Mercury, Total | 1.05 | mg/kg | 0.0015 | 0.025 | EPA 245.1-REV | 37/21/2010 | 1035 | MEC |
| Molybdenum, Total | 5.84 | mg/kg | 0.080 | 3.00 | SW846-6010B | 6/30/2010 | 1057 | DME |
| Nickel, Total | 14.2 | mg/kg | 0.110 | 3.00 | SW846-6010B | 6/30/2010 | 1057 | DME |
| Potassium, Total | 659 | mg/kg | 2.23 | 10.0 | SW846-6010B | 6/30/2010 | 1057 | DME |
| Selenium, Total | 5343 | ug/kg | 300 | 1500 | SW846-6010B | 11/4/2010 | 1252 | JLW |
| Zinc, Total | 858 | mg/kg | 0.040 | 3.00 | SW846-6010B | 6/30/2010 | 1057 | DME |

Flow if Available (GPM):

Temp. if Available (C):

Depth if Available (Ft):

Analysis Package Code: 4706.SLDGE

Type of Sample: Grab

BDL = Below Detection Limit

FLD = Field Technician

SCRLP

IV - Flag Indicates Insufficient Sample Volume

J - Flag indicates estimated value below Report Limit

T - Results indicate possible toxicity which is expected to influence reported value.

NA - A result for this analyte is not available.

MI - Matrix Interference - Final result may not be representative.

BQ = Batch QC Outside Acceptable Range

HE = Parameter Hold Time Exceeded

FC = Failure to Comply Current SOP

R = Sample results rejected because of gross deficiencies in QC or method performance.



UNIVERSAL LABORATORIES

20 Research Drive Hampton, Va 23666

TELEPHONE: (757) 885-8880
TOLL-FREE: (800) 895-2162
FAX: (757) 886-8014

TO: ENVIRONMENTAL MONITORING, INC.

5730 Industrial Park Road

P.O. Box 1190

Norton Va. 24273

ATTN: Donna Phillips

REPORT OF ANALYSIS PACKAGE

Order ID: 1006459

(REPORT DATE)

24-Jun-10

This report contains the analytical results for Project Id:470.6

designated as UL Order Id: 1006459 and received on Thursday, June 17, 2010

The samples were received and analyzed according to the methods listed in this report

The data in this report has been reviewed and validated by:

Chris Klemm

ANALYTICAL DATA REPORT

ORDER ID **1006459**

UL Sample Number: 1006459-001

Site: 470.6

Client Sample ID: 1043780

Matrix: Sludge

Comments for 1006459-001

No comments

Grab Date/Time: 6/15/2010 12:00:0

Composite Start: N/A

Composite Stop: N/A

Collected By: CLIENT

| Parameter | Test Result | Units | MDL | RL | Analysis Date/Time | Analyst |
|-------------------------------|------------------------------|-------|-----|-----|--------------------|---------|
| Method: | <u>EPA 160.4</u> | | | | | |
| Total Solids-Volatile | 60.4 | % | 0.1 | 0.1 | 6/18/2010 11:08:00 | AB |
| Method: | <u>SM-4500 NH3/B</u> | | | | | |
| Ammonia Nitrogen | 710 | mg/Kg | | 10 | 6/18/2010 10:45:00 | AB |
| Method: | <u>SM-4500 Norg/B</u> | | | | | |
| Total Kjeldahi Nitrogen (TKN) | 53245 | mg/Kg | | 10 | 6/23/2010 17:24:00 | LS |
| Method: | <u>SW-846 8082 A</u> | | | | | |
| Aroclor - 1016 | < | mg/Kg | 0.4 | 1 | 6/23/2010 19:50:00 | BD |
| Aroclor - 1221 | < | mg/Kg | 0.4 | 1 | 6/23/2010 19:50:00 | BD |
| Aroclor - 1232 | < | mg/Kg | 0.4 | 1 | 6/23/2010 19:50:00 | BD |
| Aroclor - 1242 | < | mg/Kg | 0.4 | 1 | 6/23/2010 19:50:00 | BD |
| Aroclor - 1248 | < | mg/Kg | 0.4 | 1 | 6/23/2010 19:50:00 | BD |
| Aroclor - 1254 | < | mg/Kg | 0.4 | 1 | 6/23/2010 19:50:00 | BD |
| Aroclor - 1260 | < | mg/Kg | 0.5 | 1 | 6/23/2010 19:50:00 | BD |
| Aroclor - 1262 | < | mg/Kg | 0.4 | 1 | 6/23/2010 19:50:00 | BD |
| Aroclor - 1268 | < | mg/Kg | 0.4 | 1 | 6/23/2010 19:50:00 | BD |
| Total Aroclors | < | mg/Kg | 0.5 | 9 | 6/23/2010 19:50:00 | BD |

ANALYTICAL DATA REPORT

ORDER ID **1008459**

Analytical Methods Reference

| <i>Description:</i> | <i>PrepMethod:</i> | <i>Method</i> | <i>Reference</i> |
|-------------------------------------|--------------------|----------------|------------------------|
| Sludge | | | |
| Polychlorinated Biphenyls by GC/ECD | SW-846 3550 B | SW-846 8082 A | |
| Ammonia Nitrogen | | SM-4500 NH3/D | 18th Edition |
| Total Kjeldahl Nitrogen | EPA 351.2 | SM-4500 Norg/B | 18th Edition |
| Total Solids - Volatile | | EPA 160.4 | 40 CFR part 136 App. A |

GLOSSARY OF TERMS AND ABBREVIATIONS

RL (Reporting Limit):

The RL can be raised when consideration of sample volume and matrix interferences are taken into account, generally this number is near or equal to the lowest calibration standard run with the analytical batch.

MDL (Method Detection Limit):

The constituent concentration that, when processed through the complete method, produces a signal with a 99% probability that it is different from the blank.

"<" This denotes the constituent was not detected above the RL

J=This qualifier is used to indicate an estimated value based on the measured result is outside the calibration range. In most cases the result is above calibration curve and is beyond dilution capabilities. Actual result is probably higher than estimated result given.

B=This qualifier is used when the concentration of the sample is less than three (3) times that of what is found in the method blank. This does not necessarily indicate that there is a contamination problem, but should be interpreted that the level found in the sample is inconsequential.

NR=This qualifier indicates that there was NO RESULT generally due to matrix interferences or laboratory problems.

H= Holding Time was exceeded

L=Laboratory Control Sample (LCS) outside acceptable limits

D=Duplicate sample recoveries outside acceptable limits.

MS= Matrix Spike Recovery outside acceptable limits

RL=Below the Report Limit.

MI= Matrix Interference

S= Surrogate outside acceptable limits